Vol. IX, No. 7 July, 1933

66

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SOAP

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Insecticide & Disinfectant Section

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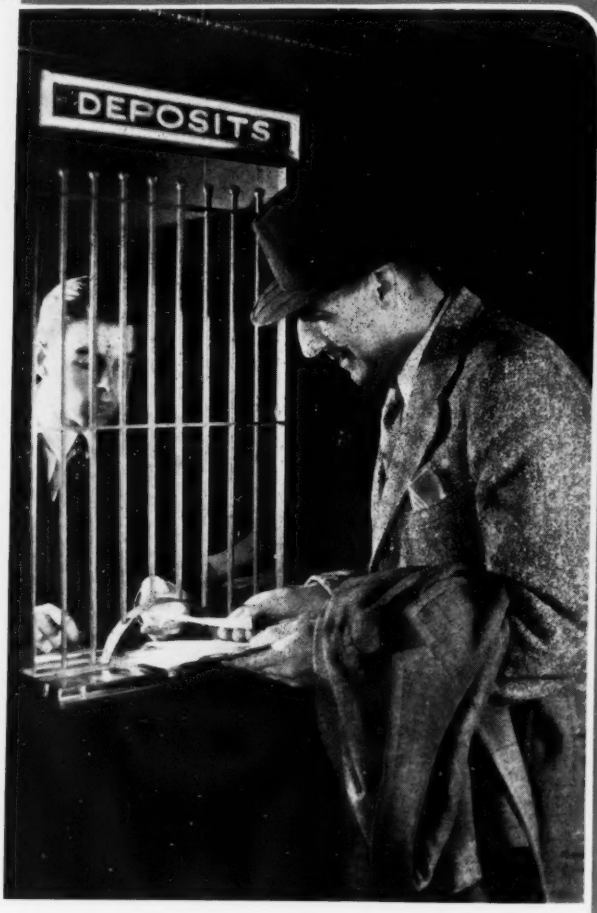

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SOAP

Reg. U. S. Patent Office

Volume IX
Number 7

July, 1933

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INSECTICIDE and Disinfectant Section, which is included as a department of every issue of SOAP, begins on page 67. Oil, Fat & Soap Production Section begins on page 55. These sections contain news, articles and editorial opinion of particular interest to their respective industries.

«

IRA P. MACNAIR
Editor

DR. FOSTER D. SNELL
Consulting Technical Editor

GRANT A. DORLAND
Business Manager

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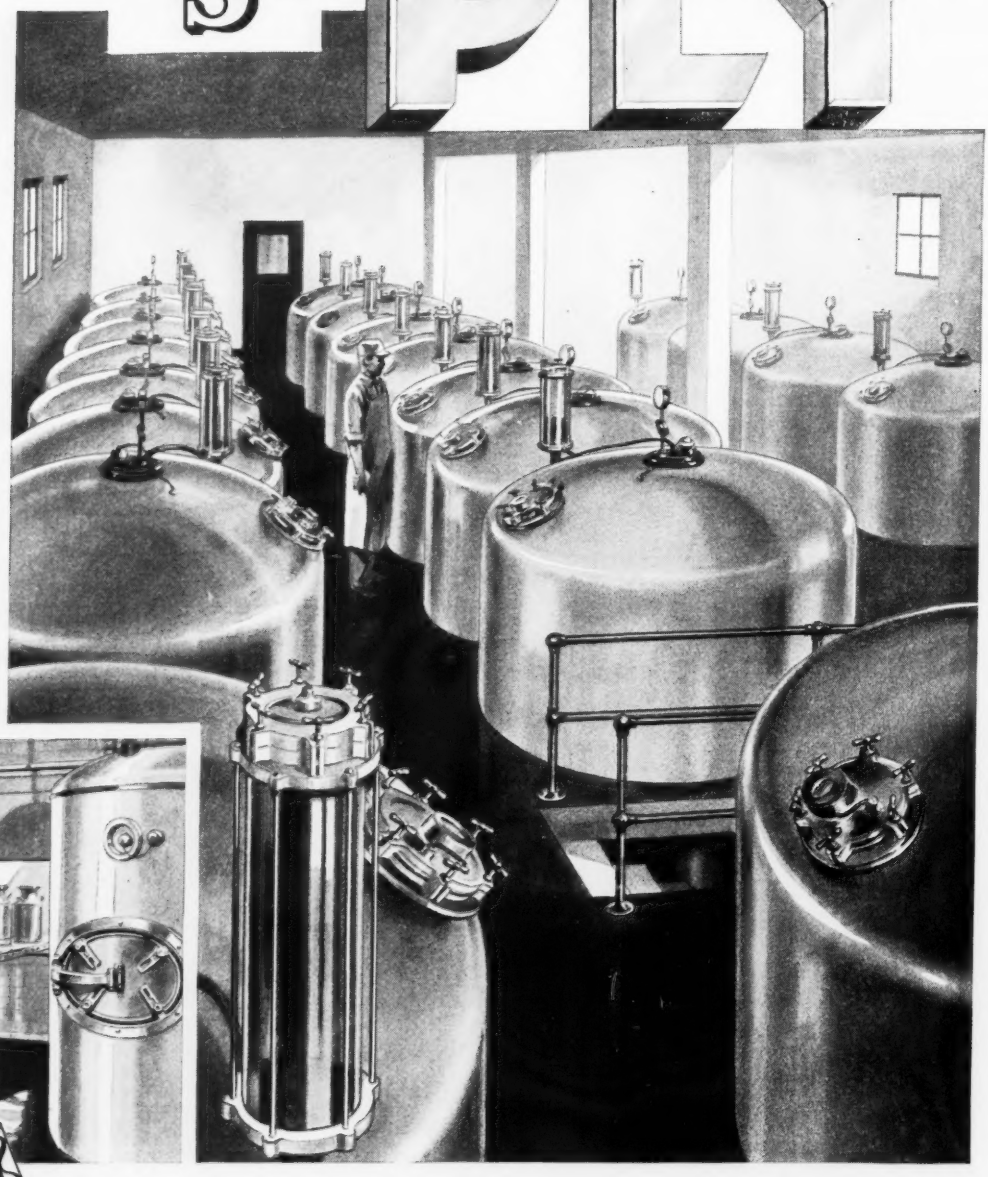

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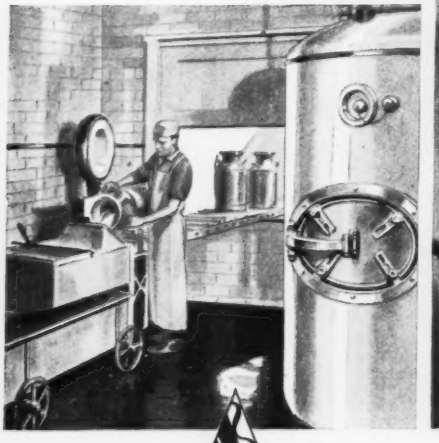

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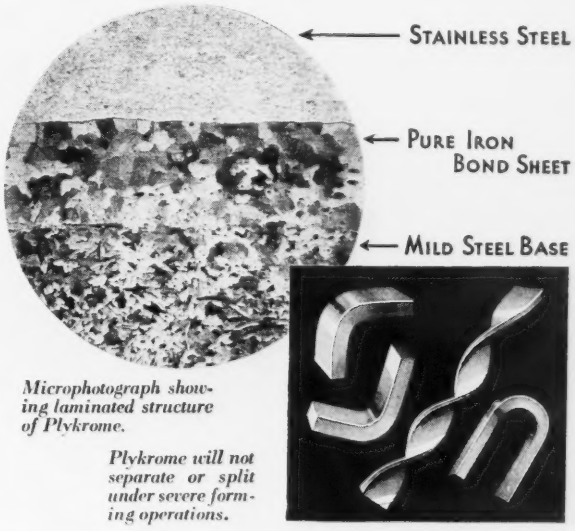

Microphotograph showing laminated structure of Plykrome.

Plykrome will not separate or split under severe forming operations.

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SOAP

Volume Nine Number Seven

INDUSTRIAL RECOVERY — BY LEGISLATION?

FOR a month past, we have studied carefully the Industrial Recovery Act. We have discussed it at length with executives both in and out of the soap industry. We have read a great deal on its objects and possibilities. We have noted much enthusiasm for it. We have pictured it in actual operation among the manufacturers and distributors of soaps, liquid soaps, detergents, and associated products. We have watched the initial efforts of a few industrial groups to work out codes under it. We have read some rather strong statements emanating from Washington regarding the determination to enforce the law vigorously. We know that the Administrator is a capable and forceful character who will cut through red tape to enforce the law if it can be enforced. But after weighing all the evidence, we have considerable doubt that the law can be enforced in all of its ramifications. Outside of the regulation of hours of labor and wages in the basic industries, we fear that the innumerable complications arising under the law will comprise an insurmountable barrier.

Practical self - regulation of industry through the trade association is the subject of widely varying opinion. Under the new law, there would be placed upon the trade association a burden of responsibility which it has never in its history been called upon to bear. A soultion of trade probems which for years have baffled various association groups, will have to be found if the law is to succeed. But how? And to whose satisfaction? And when we consider the relations and interdependence of various industrial groups and the maze of complications which arise from this, we are lost to see how a practical solution can be found.

At the same time, we see in the act the possibilities for much good to business and to the country at large if industry will cooperate. Although we are of the opinion that strict enforcement may be impracticable, we do believe that the opportunity exists for industry to get together and clean its house on a basis which has never existed before. The very idea that the Government intends to attempt to force American business to make a decent profit so that it can pay out more money in wages, is in itself significant. That the opportunity to do something along the lines of regulating prices is offered, appears even more significant. The fact that business groups are already in the process of drawing up codes for self-regulation, even though some of those codes go no further than working hours and wages, means that cooperative efforts have at least begun. That these cooperative efforts have the power of the United States Government behind them, should be a warning to those who remain consistently without the pale of decent trade practice.

As for the soap manufacturers of the country, there is no doubt but that the Industrial Recovery Act emphasizes the need of all branches of the soap industry to be banded together in a single all-inclusive trade association. Efforts are already under way

through the Association of American Soap and Glycerine Producers to form this new and entirely independent association to embrace the manufacturers of liquid and potash soaps, textile soaps, private brand soaps, detergents and specialties, as well as the manufacturers of regular toilet and laundry soaps. The group is planned to embrace all American soap firms from the smallest to the largest, with merely nominal dues, without dominance by any firm or groups of firms, and made up of divisions according to products and sections according to geographical location. Further detailed information will probably be forthcoming to every soaper within the next two weeks. Preliminary meetings will probably be called for five or six leading cities in different parts of the country. Irrespective of his views on the Industrial Recovery Act, every soap maker in the country should join this new association. In its formative stage, it has behind it experience in the soap and association fields, closeness to Washington, a well-formulated plan, and last, not "an axe to grind" for anybody but the soap industry as a whole.

—o—

WHEN raw material markets advance, there is always a certain percentage of manufacturers in every industry who will postpone advancing prices for finished goods on the basis that they still have low-cost raw materials on hand. Did it work this way when raw material costs were on the down grade? It did not! If prices for finished goods follow material costs closely during a declining market, it seems logical that they should do the same on the rise. Do not think for a minute that your customers believe the usual printed twaddle "to protect our customers we are not advancing prices, although the market for raw materials has advanced twenty per cent." Your customers know that you want to make money as well as the next fellow and that you are really thinking more of your competitors than of customers when you make these high-sounding statements. The time to advance prices is when raw materials advance. If you have some low priced materials on hand,—well, you are just lucky, the same as you were unlucky when you had high cost materials on hand two or three years ago.

A PROTEST recently came from a manufacturer of a hypochlorite washing solution that his product was being held taxable by the Government at ten per cent as a toilet article. Further investigation revealed the fact that, although its chief uses are for cleaning and washing, it was also recommended for use as a mouth wash, as a treatment for athlete's foot, and as a general antiseptic. Inasmuch as only a very small percentage of the total sales are for this purpose, the manufacturer contends that the tax is unjust and illegal. Quite obviously, if the maker in his advertising or on his labels holds out or offers his product for use as an antiseptic or toilet article, he subjects his product to the tax irrespective of his sales volume in this direction. The law is quite clear and specific. In our opinion, he is another victim of poor advertising or legal advice.

—o—

UNDER the terms of the Industrial Recovery Act, tariffs and embargoes may be levied by the President upon advice of the Tariff Commission. An industry may complain and upon investigation by the Tariff Commission if the complaint against imported products is found "just," the President may impose a tariff, or limit or forbid their importation. Doesn't this present a beautiful opportunity for those who have been trying for some years past to place a high duty on imported oils and fats? But, on the other hand, we have a faint recollection of a campaign promise back last October having something to do with "tariff barriers." Where oils and fats are concerned, we hope the President also remembers.

—o—

ON the Pacific Coast, the potash soap manufacturers have organized into a local trade association. The moving spirits in this group are men who are thoroughly conversant with the problems of the industry,—in short, they know what they are doing. That it is a progressive group is evinced by the expressed willingness to act as a part of or to cooperate with any general national soap association in its dealings with Washington under the Industrial Recovery Act.

The Industrial Recovery Act

How Will It Affect the Soap Industry?

An interview with

ROSCOE C. EDLUND

President, American Trade Association Executives

Manager, Association of American Soap & Glycerine Producers, Inc.

Throughout the entire period of formulation of the National Industrial Recovery Act, Mr. Edlund, as president of American Trade Association Executives, was close to the situation in Washington. As member of the steering committee of the National Association of Manufacturers which conferred continuously while the Act was being drawn up, and through close cooperation with and through the Chamber of Commerce of the United States, he saw the Act through many stages of its evolution and discussed it with many leaders both in and out of Washington. More recently as head of American Trade Association Executives he has been in frequent contact with the office of General Hugh S. Johnson, official Administrator. He knows the calibre of the men who will administer the Act, and most important of all, the intent of the Administration in enforcing it. As general manager of the Association of American Soap and Glycerine Producers, Mr. Edlund is further qualified to discuss the new law authoritatively from the angle of the soap industry.—The Editors.

FROM all present indications, *Nira*,—the National Industrial Recovery Act—is workable and constructive, particularly if industry and business give it prompt and vigorous backing. Voluntary cooperation is the keynote of the Act. Government has power under the Act to make compulsory regulations, but the President and his advisers believe that industry should make its own rules. They believe that each line of business should determine for itself how it can best add to employment, increase purchasing power, and maintain itself on an even keel with reasonable profit and the avoidance of injurious cut-throat competition.

In one respect, the Act is practically compulsory. The number of workers employed must be increased, and the rates of pay must be advanced. From this, even the soap industry cannot escape. Excellent as is the record of soap manufacturers in maintaining employment and wages throughout the depression, this industry is one of many so situated that it can help, at least during the emergency, to take up the slack of other lines of business that cannot possibly restore normal employment and pre-depression wages for a considerable time to come.

In other respects the Act is not a compulsion, it is an opportunity. It is an opportunity to make rules cooperatively that will take the viciousness out of unrestrained competition. It is an opportunity for industry to regulate itself in such manner that it can be fair to itself, its employees, and the general public. In "partnership" with the United States Government, business can clean house, eliminate abuses, make competition fair and honorable, and put itself upon a sound basis of service and profit.

Literally, there is not a single evil from which an industry suffers that it may not consider under this Act, and if a majority of the industry will agree upon a plan to eliminate that evil, and if that plan be fair to employer, employee, and public, the administration at Washington will approve it. When thus approved, the plan is binding upon everyone in the industry. Further than that, the plan can provide for its own enforcement machinery, back of which will stand the full force of the United States Government, operating if necessary through any Federal district attorney in the country, and backed by severe penalties written into the Act against violators. This is a revolutionary and entirely new charter for self-regulation of business. The immediate practical question is what will business do with these new and far-reaching powers?

The official machinery of administration is interesting and significant. At the top of the administration is the President himself. He is taking an active hand. He regards this Act as the climax and culmination of his emergency legislative program—the most notable legislative Act not alone of his administration but perhaps in the entire history of Congress. The President is determined to see this Act through, because he feels that upon it depends in large measure the success or failure of his administration. *Nira* is the key-stone of the new deal.

Appointed as Administrator by the President is General Hugh S. Johnson, a soldier and a business execu-

tive of wide experience, a two-fisted "hard-boiled" square-shooter, who is himself responsible for many of "the teeth" to be found in the Act, and who means business in its administration and will brook no nonsense or subterfuge.

Surrounding General Johnson is a group of hand-picked non-political associates and assistants of the highest calibre. They know that the country faces an emergency, and like the President and General Johnson, they have taken their coats off to make the new deal, as expressed in this Act, one hundred per cent effective, constructive, and successful. Under General Johnson's lead, the organization he has gathered together may be expected to show itself absolutely impartial, fearless, and committed solely to public welfare.

Business, if it meets issues squarely, has nothing to fear from men of the type with whom General Johnson is surrounding his high office. Business, on the contrary, will find this "partnership" something very real, for the "partners" are armed with powers never heretofore conferred in time of peace, powers that can lead, persuade, or compel "recalcitrants" to come into line. Some business leaders are said to believe that the law has no teeth, but if so, it is because they have not read the law or do not know the General and his associates. The teeth are there, and when necessary they can bite, and bite hard.

Appointed by the President is also the National Industrial Recovery Board. This Board, consisting of the Secretaries of Commerce, Justice, Interior, Agriculture, and Labor, together with the Budget Director and the Chairman of the Federal Trade Commission, cooperates with Administrator Hugh Johnson. The Chairman of the Board is the Secretary of Commerce, Daniel C. Roper, while the executive secretary of the Board is the Assistant Secretary of Commerce, John Dickinson, prominent member of the brain trust.

Immediately associated with the Administrator's office are three boards, each designed to guard the interests of the particular group which it serves. There is an Industrial Advisory Board, appointed by the Secretary of Commerce to look after the interests of industry, a Labor Advisory Board, appointed by the Secretary of Labor to guard the interests of labor, and a Consumers' Advisory Board to look after the general welfare of the public. These are dollar-a-year boards of outstanding leaders in their respective fields.

So much for the set-up under which the Act will function. It is a confidence inspiring set-up. Business, labor, and the public may feel assured that the Act will be administered upon a high plane, and with the interests of all fully protected. The problems are complex but they will be dealt with with intelligence, fairness and courage.

As everybody knows *Nira* grew out of the general unemployment situation which in turn had come close to paralyzing the buying power of the American workman. The object of the law is simple,—to increase purchasing power by increasing wages and employment. Everything else is incidental to this. The opportunity for industry to organize for the elimination of evil practices and for profit to enable the payment of more wages, becomes part of the plan. The law is an emergency law operative for two years or until such time within that period as the President may declare the emergency at an end. If good results are obtained under the emergency, the features that look best will doubtless be re-enacted for the long time future.

Under *Nira* all industries are expected to draw up and submit codes of fair competition. These codes are the means through which the purposes of the law are to be achieved. If industries do not voluntarily submit codes, the President has power to make codes for them.

The submission of a code to Washington should carry with it the approval of the majority of an industry. What "the majority" is will be determined in each instance by the rule of reason. The interests of small companies will be fully protected, and so will the interests of large companies as well. Minorities will be given a full hearing under the Act before a code is approved. If an industry is unable to agree upon a code, the various factions may go, preferably jointly, to Washington to present their views. Consumers and employees will also have every chance to express their views, as will also the distributors of the products of any manufacturing industry.

As already indicated a code must make provisions for shortening the maximum hours of labor and for increasing the minimum wage scale above what it is at present. Only codes which make such provisions will be acceptable at Washington. Other provisions for industry control, the elimination of injurious practices, the bridling of unrestrained competition, and even to certain types of agreement affecting sales prices, are features which industries may or may not include in their codes as they see fit. If an industry has no evils, or has not the gumption to eliminate them, or is fearful of coming under political domination, it can let the opportunity go by. It can, in other words, tackle only the problem of giving more employment and paying more wages. This it must do, or Washington will want to know why, and may issue its own regulations which the industry then, willy-nilly, must obey.

Effects on the Soap Industry

RUNNING through the minds of all soap makers, large and small and in all parts of the country, is the question as to the effect of *Nira* upon the soap business and what the industry should or should not do to take advantage of it. Without more ado, it can be said that the soap industry, like every other line of industry and business, should organize under the Act at the earliest practicable moment. It should do this not alone because the Act practically requires it, but because it is both good business and sound patriotism

to share in fully adding to employment and wages and thus doing our best to aid the President's recovery plan. To this end, a new and complete soap industry association should be formed, and plans to accomplish this are already under way. To carry this out will take time but the task has been begun by the only existing machinery, namely the Association of American Soap and Glycerine Producers, Inc.

How shall the industry organize? A new all-inclusive association of manufacturers, embracing all divisions of the industry—toilet and laundry soap producers, liquid and potash soap makers, private brand houses, textile and industrial soap manufacturers, powder and special detergent manufacturers, and any others, —should be instituted.

The Administration at Washington strongly desires one association only to represent each industry. This rule should not be departed fro munless there is urgent and compelling reason to the contrary. General Johnson's office does not expect to work any hardship upon any separate branch of an industry if there is strong reason why it must not only present a separate case but be separately organized. On the other hand, the Administrator desires to avoid dealing with sections of an industry. It wants to talk to an association representing a whole industry. Differences of opinion can be freely presented but organization should as far as possible be united. The necessity for this is obvious when it is stated that the Administration has already counted three thousand groups from which codes are expected. The Administration most certainly will not, if it can help it, deal with ten thousand groups due to unnecessary split-ups within various industries. The soap industry should not split up, not because this is anybody's idea within the industry, but because we should conform as far as possible to what Washington wants. When soap makers go to General Johnson's office, they should go united and not divided.

Nira provides that in the case of trade associations that submit codes there shall be no inequitable restrictions on membership. The intent is that every firm within an industry should be a member. Consequently the new soap association should, and must, be open to everybody actually in the business of manufacturing soap. Its members should come from every locality in the country, and from every product group in the industry. Companies whose primary business is in some other industry, but who make and sell soap, should be members. In order that membership dues shall be no barrier, the annual amount of such dues should be small. Expenses of the association, or of any of its divisions, not covered by dues, should be borne pro rata by the companies concerned and in proportion to their volume of production.

In the new soap association a number of divisions will probably be necessary. These divisions might include one for the potash and liquid soap makers, one for the private brand houses, another for the toilet and laundry soap makers, one for the textile and industrial soapers, and others as needed. If a glycerine division is organized it may include glycerine producers from other industries in addition to soap makers. The association as a whole, or its divisions, may require organization in geographical sections. For example, the potash soap manufacturers might like to organize in three groups, east coast, middle west, and Pacific coast. Groups and sections could meet separately and as needed. If required by geographical conditions, they might have separate items included in the codes of the industry to cover their particular needs. So much for the general type of organization, subject, of course, to suggestions from the industry itself.

A Soap Industry Code

WHAT about a soap industry code? How should it be drawn and what should it include? There should, of course, be a general soap industry code. This must provide definitely for maximum weekly hours of labor, which must be less than at present, and for minimum wages for unskilled labor. Washington asks that wages be stated at a minimum weekly rate. Wage rates will not necessarily be the same for men and women or for different sections of the country, but in every case, the minimum rate must be sufficient to provide for a reasonable standard of living. These hours and wages features of the code will, of course, mean that the hourly rate of minimum wages must go up and that our industry, like all others, is bound to have an increase in its general labor costs. In no other way however, can the major purposes of *Nira* be met.

Other matters that the soap industry may include in its general soap code would be such broad basic improvements in industry practice as a majority might decide to be desirable. For example, some have suggested a general rule designed to prevent sales in any branch of the industry below cost of production and distribution. To enforce such a rule, machinery would have to be set up through the association. This is merely an example. What things to regulate, and how to make regulations effective, are for the industry itself to determine at group or general meetings.

Washington has indicated that it prefers that the initial code of an industry be as simple as possible. Additional codes or supplements can be submitted at any time. In an industry like the soap industry, codes for various divisions can be filed for approval as supplements to the general industry code.

There is no need for any code to include everything at the beginning. Additions and changes can be made whenever they are ready or whenever they are found necessary. It is right and proper that careful thought should be given, for code provisions when adopted by the industry and approved at Washington become the *law* of the industry *applicable to everyone* in it. The first thought must be given to codes covering hours and wages; other things can go in at the beginning if they are ready, otherwise they can be added later.

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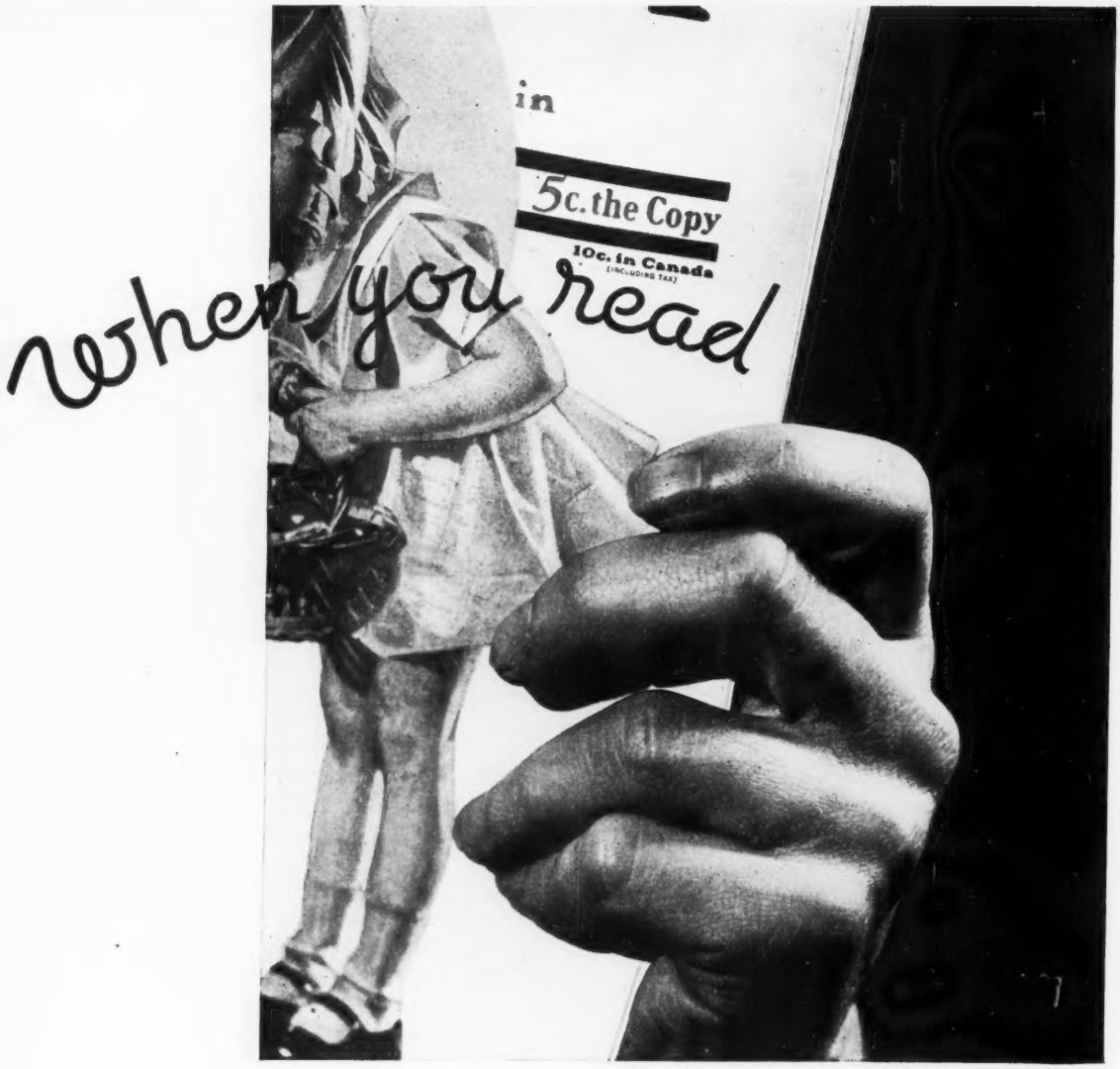

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What Future for Glycerin?

UNLESS steps are taken to develop new derivatives of glycerin of sufficiently advantageous properties to warrant uses both for new and old purposes in preference to other substances, and unless research service is readily available to users of glycerin to aid them in using this product to best advantage in their manufacturing operations, the future of glycerin cannot be promising. Glycerin has been "a thorn in the flesh" to both the soap maker and refiner for the past five years. It is subject to many contradictory economic forces which affect its price and consumption. It is beset with severe competition from substitutes, even though some may say that, strictly speaking, it cannot be substituted. Furthermore, the conditions that afflict the American glycerin industry have a counterpart in foreign countries, particularly England, Holland and Germany. The American glycerin industry has to contend not only with domestic difficulties, but must also combat the efforts of the foreign glycerin industry to sell its product in American markets. In fact, the glycerin industry is in poor shape the world over.

The world-wide depression forced down the prices of practically every raw material and manufactured product to record lows. It is not surprising that the price of glycerin should be lower today everywhere than ever before in its recent history. Nevertheless, this low price has not been due altogether to the depression. Certain contributory forces have been working against the use of glycerin for purposes established almost at the very beginning of glycerin production. The glycerin industry must combat this development intelligently and constructively if it desires to bring the price back to the point where the crude glycerin producer as well as the glycerin refiner can make a profit. The glycerin price problem will not be solved by a general rise in commodity prices.

Why has the price fallen so low and remained so low? A correct answer must go back to the very high-priced period of 1925 to 1926. In 1925 the first serious effort to sell glycerin as an anti-freeze was made. Glycerin producers and refiners showed great activity in developing the field and considerable advertising was done to encourage car and truck owners to use glycerin as a "permanent" anti-freeze. Sales of glycerin increased markedly and the price rose quite rapidly. The initial campaign was moderately successful and plans were made for the 1926 to 1927 season. The result was that within a few months the price of glycerin had reached the highest point since the war. An apparent shortage of glycerin developed.

It has been claimed that this shortage was more or less artificial, since strong efforts were made to maintain and increase the high price. It was inevitable that the lucrative American market should have attracted the attention of foreign producers and refiners, and in spite of the tariff, huge quantities were imported from abroad. Thus in 1926, about 38,444,000 pounds were imported, the largest ever brought into this country. This would not have mattered so much, had the glycerin been totally consumed. The fact is that it was not, and certain students of the glycerin market continue even to this day to assign the present low price of glycerin in part to this tremendous importation, although there have been many other contributing causes.

The larger part of this import was left over at the end of the year and to this was added unsold glycerin of American manufacture. The decrease of business activity contributed in coming years to build up stocks and at the end of 1931, there were on hand 15,368,286 pounds of crude glycerin, 11,749,900 pounds of dynamite, and 11,177,720 pounds of chemically pure, making a total of 38,295,906 pounds, while at the end of 1932 the stocks were 18,079,125 pounds of crude, 16,258,544 pounds of dynamite and 14,814,537 pounds of chemically pure, making a total of 49,152,206 pounds. These are of course government figures, and must be accepted with a grain of salt. This is particularly true for glycerin, since there is evidence that the government in compiling glycerin figures duplicates some of them. However, the figures are valuable for comparative purposes.

High Price Forced Substitution

THE high price of glycerin, more or less artificially produced during 1926 and 1927, acted as a boomerang. This happens with every commodity that can be substituted, and there are indeed very few that cannot. Glycerin has a great many uses, and these, except a few such as making nitroglycerin, glycerinophosphates and the like, are simple compounding. The glycerin is merely mixed with other substances to give the finished product, no chemical reaction taking place. It was, therefore, inevitable that, as the price rose, the minor uses of glycerin should have decreased, and glycerin was supplanted by other substances, which were cheaper even though less satisfactory. Glycerin in this respect is much like rubber, for when the price of rubber increases, it is always forced out of certain industries by substitutes of lower price. The user of rubber, like the user of glycerin, may prefer to employ it in place of the substitutes, but cannot do so because of the price. There

is no question that such a movement works to the detriment of a commodity like glycerin and rubber, because some users never return to the better product, no matter how low the price may go. It is well known that manufacturers of dynamite resorted in part to cheaper ammonium nitrate during this high price period. This had a material effect in reducing the consumption of glycerin, because dynamite accounted for about 50 per cent of the consumption of glycerin in former years.

However, perhaps the most significant feature of this development was the introduction of a comparatively new product, ethyleneglycol. Both ethyleneglycol and its derivatives, the ethyl, methyl and other ethers and their esters, such as the acetate, formate, propionate, etc., entered the field and found many uses, which have not stopped increasing and developing to this day. It is held by some that ethyleneglycol is today the greatest deterrent to an increase in the price of glycerin. This means an increase of price in addition to the natural increase caused by the present upward trend in prices in general.

The properties of the glycol are much like those of glycerin. The high price of glycerin led to the use of ethyleneglycol for the manufacture of nitrated derivatives for use in dynamites, permissibles (special ammonium nitrate dynamite certified for use in coal mining and the like) and gelatins (mixtures of nitroglycerin and nitro-cotton). Ethyleneglycol has become well-established in the dynamite industry, particularly since it has become common practice for dynamite manufacturers to make practically all their dynamite of the low freezing quality. Nitroglycerin freezes in dynamite at winter temperatures and will not detonate. Thawing-out the frozen dynamite is always a dangerous task. Nitrated ethyleneglycol does not freeze. In former years non-freezing dynamite was a special grade and specially priced. Sugar dissolved in the glycerin, then nitrated and thereafter incorporated in the dynamite gave the desired non-freezing properties. Today, dynamite makers use 25 per cent ethyleneglycol and 75 per cent glycerin as standard practice in making the explosive ingredient of dynamites.

That this development would take taken place anyway is no argument. The fact remains that the high price of glycerin hastened the substitution. Ethyleneglycol unquestionably holds the whip over the glycerin industry in this and other applications. The price of glycerin must be kept below certain levels to shut out the substitution of the higher priced ethyleneglycol. Substantial increase of price of glycerin must inevitably mean increased use of ethylene glycol, provided of course that a corresponding increase does not take place in the price of ethyleneglycol. On the other hand, should reduced manufacturing costs result in a decrease in the price of ethyleneglycol, this must be followed by further decrease in the use of glycerin.

It is useless to say that ethyleneglycol is not as good for many purposes as glycerin. There is definite proof that ethyleneglycol can be used for practically all the purposes to which glycerin is put with just as good results. As long as ethyleneglycol remains in the picture, it is a constant threat to glycerin, unless the price of the latter is kept down to such a point that the economy gained in using glycerin more than counterbalances whatever other advantages are secured by using ethyleneglycol. This situation is therefore potent in maintaining the price of glycerin low, and there is no doubt that a material increase in the price of glycerin would take place, above that brought about by a general improvement in business, were ethyleneglycol removed. There is no use in making light of the competition afforded by this product, because the ethyleneglycol makers are naturally aware of the state of affairs. Incidentally the introduction of glycerin as an anti-freeze blazed a trail for ethyleneglycol to follow. This was of course unavoidable, and has its counterpart in many industries. Glycerin gives good results in this application, even though it did not do so at the start due to foaming, leakage, and other defects.

Production Not Controlled

ANOTHER condition which has affected the price of glycerin is the lack of control over its production. Glycerin is a by-product in soap making. The soap maker's first interest is soap making and he makes enough soap to meet the demand. Glycerin is of secondary importance to him, although, to be sure, he wants to sell it at a profit if he can. The trouble has been that the soap industry has progressed much faster and further than the glycerin industry. The demand for soap has increased far above the demand for glycerin, while the production of glycerin has gone hand in hand with the increase in the production of soap. Furthermore, the soap industry did not suffer nearly as much as the average industry during the business depression. Soap consumption kept up, while glycerin consumption decreased and would still have decreased even though ethyleneglycol and other substitutes had not made some inroads into the business. The industries consuming glycerin were simply not as fortunate as the soap industry and suffered more severely from the depression.

It is practically impossible to control the price of a commodity whose production is uncontrollable for the above reasons unless of course the commodity is deliberately thrown away or wasted, like the coffee industry of Brazil got rid of excess coffee by burning it. The soap maker has not adopted such methods and probably would not do so. He has the equipment available for working up his glycerin and the cost of treatment is held to be small. He must sell the crude glycerin, because it is costly to store in drums or tanks, and furthermore there is danger of some spoilage during storage. He sells it for what it will bring. Of course if he has a large enough production of crude glycerine to refine it himself,—and it has been said that any soap maker producing a million pounds of glycerin or over annually should refine the crude himself—he can store the purified product. But this ties up storage space and cannot be pursued for long without costs mounting so high

that he must eventually sell at a loss unless a price increase takes place. Therefore, as long as glycerin production is merely an adjunct of soap production, the glycerin industry will be confronted with the necessity of finding new outlets for its product to keep in step with the onward march of soap production.

As has been said before, the price of glycerin today is the lowest ever, the past ten year average for crude glycerin being about double the present price. The trend of prices of glycerin since 1928 is shown in the following tabulation.

CRUDE GLYCERIN
Per Pound

Year	High	Low
1928	9.25 cents	7.25 cents
1929	7.25	6.75
1930	7.25	6.75
1931	5.75	4.75
1932	5.00	4.00
1933 to date	5.00	4.00
	DYNAMITE GLYCERIN	
1928	15.00	11.25
1929	12.00	10.75
1930	12.00	10.50
1931	11.00	9.00
1932	9.00	7.00
1933 to date	7.25	6.375
	CHEMICALLY PURE GLYCERIN	
1928	19.00	15.00
1929	15.50	13.50
1930	14.00	12.50
1931	12.50	11.25
1932	11.25	10.25
1933 to date	Present price is 10.25 cents, advancing.	

Imports have also had their adverse affect on the price of glycerin in this country. Glycerin is an international commodity. It is produced in many countries and the prices in this market as well as the tariff both on the refined and the crude product are important factors in controlling American prices. We have seen how over 38,000,000 pounds were brought into this country from foreign sources in 1926 because of the attractive price. The American glycerin industry, as well as many another, has had demonstrated to it that a foreign commodity can come into the country in large quantities in spite of the tariff if prices are too high. Imports of glycerin into the United States since 1928 are given in the following tabulation.

GLYCERIN IMPORTS
In Pounds

Year	Crude	Refined
1928	9,707,705	5,020,660
1929	12,839,399	7,564,272
1930	9,915,872	1,869,620
1931	10,131,962	1,975,970
1932	5,184,411	2,333,606

Exchange Drop Blocks Imports

WHILE it is a fact that when the explosive industry is working at full capacity and all other users of glycerin are taking their full quotas, enough glycerin can not be refined in this country to meet the demand, nevertheless such has not been true for many years and is not true today. Price plays the important role. If foreign manufacturers of crude glycerin can undersell American soap makers, and foreign refiners American glycerin refiners, the foreign product comes in, tariff or no tariff. It is strange enough that refiners will buy the cheaper foreign crude glycerin in spite of the fact that they have to compete themselves with imported refined glycerin. Their answer is that it is the only way in which they can successfully compete with the foreign refined. In the last analysis we buy where we can most cheaply, in spite of any prejudices we may have.

At the present time no new glycerin is being imported. The drop in the dollar has put the foreign glycerin industry, particularly in Holland and Germany, which countries are responsible for most of the glycerin imports into the United States, in a disadvantageous position. But, we may be sure that the foreign producers are watching American prices of crude and refined glycerin sharply, ready to take advantage of any increase of price to ship their products over here again. If the exchange value of the dollar keeps going down, the American glycerin producer will naturally benefit. If it is stabilized at $4.00 or $4.40 to the English pound sterling, the American prices can rise only so much before leaving an opening for foreign glycerin.

Even though the labor cost in producing glycerin in the U. S. may be small, nevertheless, the foreign producer and refiner has a distinct edge on the American industry. At times it has appeared as if he were willing to sell his glycerin at any price with no profit or even a loss in order to get rid of it. Whether the answer to the problem is to increase the duty of one cent per pound on the crude glycerin and two cents per pound on the refined glycerin is hard to say, because there is always the consumer to think of as well. An increased tariff should be of some help in keeping out foreign supplies of glycerin as long as our own industry finds such difficulty in getting rid of its own product at a price sufficient to leave a fair profit. Incidentally the ability of the Dutch and German producer and refiner to make and refine glycerin at practically next to nothing has cost us our export business. In former years the American glycerin industry exported fairly substantial quantities of glycerin to Canada. Today our exports of glycerin are negligible.

Finally, there is the strange and important fact that the price of glycerin does not appear to bear any relation to the price of soap-making raw materials. Glycerin appears to act independently of the price of tallow, grease and vegetable oils. It reacts solely to the law of supply and demand. However, if soap makers figure the cost of their crude glycerin, it has been very low for several years due to the low prices of all soap making raw materials.

Glycerin Contract Ills

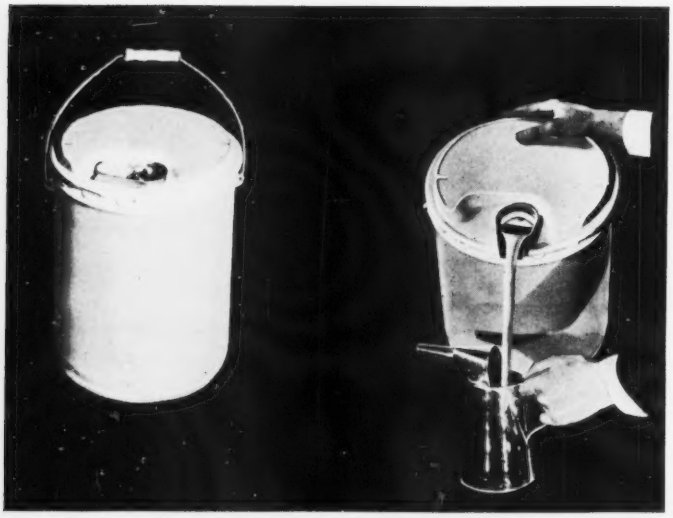
BEFORE leaving the ills of the industry, attention might be called to the peculiarly illogical and unfair contractual arrangements affecting the refined glycerin industry. As a matter of fact, this condition is prevalent throughout the entire chemical industry. The

(*Turn to Page* 53)

New Products

A new product carries a famous trade name. Procter & Gamble introduce Ivory Shaving Cream to the American market. Trade comment terms product and package a "natural."

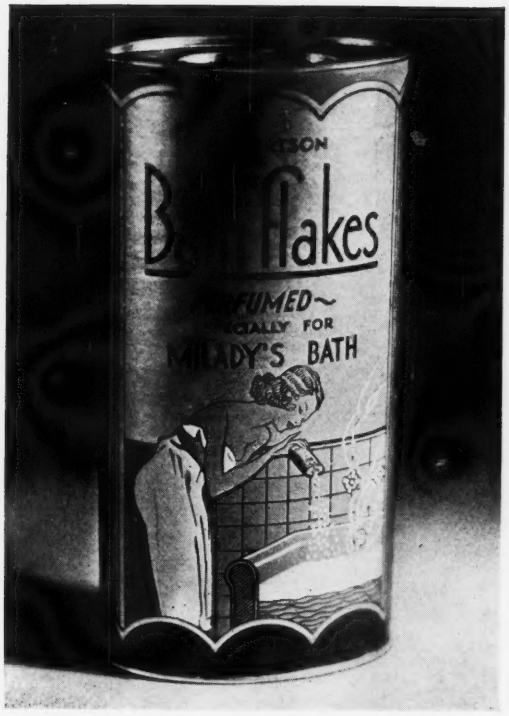
Two new multicolored packages, one for McNess' Health Soap of Furst-McNess of Freeport, Ill., and the Royale Talc package for Allen B. Wrisley Co. of Chicago. Both packages by Michigan Lithographing Co., Grand Rapids, Mich.



Two views of the new Wilson & Bennett swivel spout Por-Pail, one with the spout turned into the cover indentation ready for shipping or storage, and the other in use.

and Packages

A new jar for Barbasol makes its bow to supplement the well-known Barbasol tube. The closure is a Phoenix metal cap.



A new bath flake is marketed by the J. T. Robertson Co. of Syracuse, N. Y. Bathflakes are pure soap, says the maker, supplied in pink with rose odor and green with jasmin odor. On the radio during Uncle Don's hour over WOR at 6 P.M. daily. Fibre can by R. C. Can Co., St. Louis. Label in silver and green by Addison Lithograph of Rochester, N. Y.

Metal Tone of the Union Oil Company of California appears on the market in all-metal container capped with Amerseal.

A striking dispenser-package for Pax powdered hand soap of the Packwood Manufacturing Co., St. Louis. The large five-pound package is equipped with Pax patented dispenser and merely has to be hung on the wall. Eliminates filling dispensers. Fibre containers by R. C. Can Co. of St. Louis. Label in silver and blue.

A moulded plastic bowl designed as a package for shaving soap, brushless shave cream, hand soap, silver polish, shoe polish, etc. Made of Durez. When contents are used up, suitable for ash trays, pin boxes, candy dishes, etc.

✦

A contrast in old and new. Package for furniture polish of the Jordan-Marsh Co. of Boston effectively redesigned. The new bottle is a regular stock imperial oblong by Owens-Illinois.

New wide-shouldered glass container which tapers to a narrower base are adopted by Nelson-Baker of Detroit is their Garden Court line. The tall moulded closure adds slenderness and beauty to the package. Containers redesigned and manufactured by Owens-Illinois.

Another manufacturer of household ammonia abandons the rubber stopper and turns to the metal cap. The Goodwin Company of Los Angeles adopt a Phoenix screw cap for their Magic Cloud Ammonia.

A product especially for cleaning refrigerators attracts attention in the form of Magic Refrigerator Soap which is being manufactured and sold by the Joal Sales Company of New York.

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FARMER'S WIFE
Webb Publishing Company
NEW YORK SAINT PAUL CHICAGO

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S. O. S.	RINSO
OXYDOL	P. & G. NAPHTHA

A. M. T. A. Postpones Trade Conference

Following a meeting June 14th at the Hotel Biltmore, New York, the trade practice committee of the American Manufacturers of Toilet Articles announced that it had decided to ask for a postponement of its hearing with the Federal Trade Commission until September. In the meantime the committee will work closely with Drug Institute, Inc., in the formation of its code, as well as with retail and wholesale distributors of drugs and cosmetics. The code of ethics drafted by the trade practice committee of A. M. T. A. has been turned over to Drug Institute, Inc., for consideration in forming the code for the broader organization. The meeting at the Biltmore, June 14, was attended by twenty leading executives of department stores, chain drug stores, wholesale druggists and independent retail druggists, to whom the aims and purposes of the association's activities were explained. The trade practice committee was invited by the guests to confer with the organizations they represent in developing further plans.

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Iodent Co. Halts Imitator

Iodent Chemical Co., Detroit, has secured a temporary injunction against Carlton Laboratories, maker of "Arrodent" tooth paste, restraining the latter concern from further manufacture and sale of any tooth paste under the above name. The court heard full argument from both sides, ruling that the rights of the Iodent Co. had been infringed. The tubes and cartons used on the Carlton product were blue and white in color like the "Iodent" tube and displayed the numeral "2" which is a feature of the "Iodent" trade mark.

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Richards Chemical Works, Jersey City, N. J., have prepared a folder describing their six new oil bases for polishes. These have been designed to take care of the variation in mineral oil used in different parts of the country. The company believes that these six bases are elastic enough to solve almost any mineral oil problem. The mixtures suggested are 20 parts of any base to either 80 or 100 parts of mineral oil depending on the type of oil being used.

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A cargo of soap comprised a large part of the load of a former rum-runner captured by the Royal Canadian Mounted Police near LaSalle, Ontario. It was the largest seizure in border annals. Besides soap the cargo consisted of sugar and fresh vegetables and fruits. The price of these commodities in Detroit is about one-third to one-half what they sell for it in Windsor, Ontario. No person was caught with the boat, and its ownership has not been established.

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Merck & Co., Rahway, have issued a descriptive booklet published in commemoration of the recent opening of the new Merck laboratory. "A Chemical Almanack" has also been printed for distribution at the Merck exhibit in the Hall of Science at A Century of Progress.

Los Angeles Soap to Test Fair Trade Act

Los Angeles Soap Co. has filed suit for $50,000 damages against Frederick's Hollywood Market, Inc., Hollywood, in the Los Angeles County Superior Court, for alleged failure to live up to an agreement to maintain the stop price of 27c a package on "White King" granulated soap. The action, in effect, will be a test of the California Fair Trade Act under which manufacturers are empowered to fix minimum resale prices. It is charged that the defendant advertised the product in a Hollywood newspaper at 15c a package and made sales at that cut price on April 6 and April 13, in spite of public notice being given by the company that a minimum price of 27c would be maintained on the 2½-lb. package. Early in June Los Angeles Soap withdrew its special deal on "White King" granulated and toilet soap in which 20 cakes of toilet soap were given free with each case of 24 large packages of granulated soap.

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Lever Bros. 1932 Profits £6,228,161

Lever Bros., Ltd., and associated companies earned £6,228,161 in 1932 on sales which aggregated £62,778,690, according to the report of F. D'Arcy Cooper at the recent annual meeting. Profits in 1931 were £5,903,498 and in 1930 £5,749,659. The 1932 record is the more remarkable in view of the world-wide depression, and is credited to a certain extent to the fact that more was spent on advertising in 1932 than ever before. Higher profits were made in the face of reduced selling prices in all markets, the drop in England being estimated at 17%. The total tonnage of the company was increased from 1,911,000 tons to 2,008,000 tons in spite of the fact that exports fell off about 15%. Sales are reported to be holding up well during the early months of 1933, although, due to the uncertainty of various currencies, Mr. Cooper stated that the present situation calls for extreme caution.

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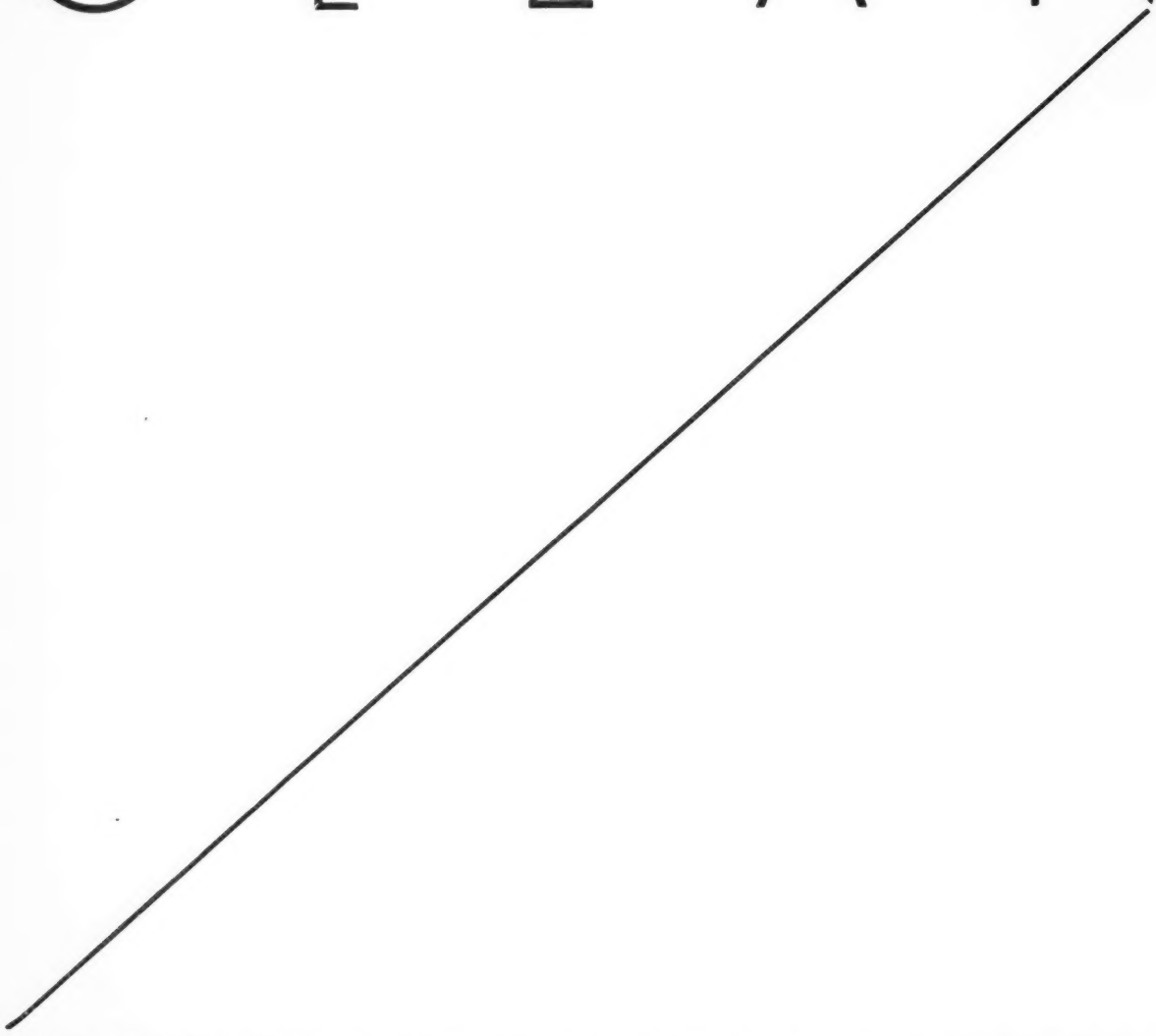
Cosmetic & Extract Assn. Members Golf

The first golf tournament of the Michigan Cosmetic and Extract Association, held at the Lakewood Golf and Country Club, Tecumseh, Ontario, Thursday, June 15th, was attended by about thirty members and guests. Prizes for low gross, hidden hole, kickers handicap, etc., were won by Jeff Synder, Rossville Commercial Alcohol Co., W. H. Elliott, Elliott Sales and Service, John Vicary, British American Brewing Co., W. I. McDonald, Harry Holland and Son, Inc., and R. M. Stevenson, manufacturer's representative.

—o—

Milton Chemical Co., Williamsport, Pa., has recently started production of toilet preparations, the first product being a tooth paste which will be sold under the name "Judges" milk of magnesia tooth paste. The right to both formula and name were obtained from Judges of England where the product has been made for the past thirty years.

CLEAN



NEWPORT WOOD ROSINS are always clean...clean because they are made clean in modern plants elaborately equipped with the most scientific machinery...clean because constant refinery supervision under laboratory control keeps them clean...clean because they are packed and shipped to you in our patented compressible steel drums. ¶ When you open a drum of Newport Wood Rosin, you get clean, uniform rosin, free from splinters, dirt and all impurities. Newport Rosins cost you no more than rosins of indifferent manufacture. There is a grade and color type of Newport Rosin for every requirement.

GENERAL NAVAL STORES COMPANY, *Inc.*

Address Our Main Office: *75 East 45th St., New York City*

NEWPORT

Plants: *De Quincy, La.—Pensacola, Fla.—Bay Minette, Ala.*

Form Potash Soap Assn. on Coast

Liquid and potash soap manufacturers on the Pacific Coast are developing plans for the formation of the Pacific Coast Potash Soap Manufacturers & Distributors' Association to operate under the terms of the National Industrial Recovery Act. Meetings have been held in Los Angeles and San Francisco, the most recent on July 7th. to draw up plans for organization of the group. A. L. Bobrick, Bobrick Manufacturing Corp., Los Angeles, is acting as temporary secretary of the association during organization. A local section has already been formed in Los Angeles to operate under the association, and manufacturers in northern California are also being asked to form a local to operate in that territory.

The jurisdiction of the association is to include the states of California, Washington, Oregon, Montana, Idaho, Wyoming, Colorado, Nevada, Utah, Arizona, New Mexico and western Texas. Its activities are to include fixing of standards for liquid and potash soaps, formulation of trade practice rules, and supervision of prices of liquid and potash soaps to both consumers and jobbers. Dues are set tentatively at $5.00 per month, and no restrictions are placed on membership, manufacturers and distributors alike being eligible.

—o—

Reorganize Wilson & Buster, Inc.

Following D. Hugh Buster's severance of his connection with Wilson & Buster, Inc., the firm has been reorganized under the name of the A. Reed Wilson Co. Other stockholders and officers will continue as heretofore. James E. Gill, formerly office manager, will devote more time to selling, and his previous duties will be taken over by Henry A. Fallon. It is understood that Mr. Buster has rejoined Vestal Chemical Laboratories, St. Louis, with whom he was associated before the formation of Wilson & Buster, Inc., as maintenance counselors.

—o—

O. C. Huffman, president of Continental Can Co. reports that sales tonnage for the first ten days of May showed an increase of 24% over figures for 1932, indicating that the canning and can making industries are sharing in the generally reported improvement in business conditions.

—o—

Arrow Chemical Products Co., Brooklyn, sanitary products, has assigned assets for the benefit of creditors to Morris S. Gottesman, attorneys for the assignee being Kreindler, Warshaw & Baron, 270 Broadway, New York. Creditors are instructed to file verified claims before July 31.

—o—

Halitosine Co., St. Louis, recently opened a new plant at 5001 Fyler Ave. The company has made rapid strides since its formation in 1927 by Lee Hess, Thomas Matoushek and Felix Garnier, and its products now enjoy national distribution.

Urge Duties on Oils and Fats

Recommendation that the full power of the Agricultural Adjustment Act be used to check the importation of vegetable and fish oils and fats, and that the production of substitutes and imitations of dairy products be restricted, was made by L. J. Taber, chairman of the Production Control Committee of dairymen and Master of the National Grange, to the Administrator of the Act recently. He stated that 1,800,000,000 pounds of foreign oils and fats are displacing domestic dairy products and oils and fats. According to John B. Gordon of the Bureau of Raw Materials for American Vegetable Oils and Fats Industries, he overstated the imports of oils and fats for 1932 by 500,000,000 pounds, and also included all medicinal, paint and varnish, and other industrial oils. Mr. Gordon has called attention to a recent meeting of renderers in New York at which Congressmen Celler and Hartley spoke and advised them to take their troubles to Washington, especially the competition from imported fats and oils. It is expected that such claims will be laid before the Tariff Commission with a view to excluding products which compete with domestic tallow and greases.

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The annual outing of the Foragers was held at Green Gables, Monmouth Beach, N. J., June 24, approximately seventy being present to enjoy a shore dinner and a day of golf, baseball and athletic events. The trip down and back was made by boat as usual. Among those present were Mr. McNary of Colgate-Palmolive-Peet Co. and Mr. Buckley and Martin Schultes of Hewitt Bros. Soap Co., the latter being a member of the winning baseball team captained by Ted Hanlon of Caron Corp. Movies taken at the outing were shown at the luncheon of the group on July 12th at the Herald Square Hotel.

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The index of employment in the soap industry, compiled by the U. S. Department of Commerce, stood at 95.8 in May, 1933, as compared with 94.0 in April, 94.2 in May, 1932, and a 12-month average for 1926 of 100. The payroll index was 78.8 in May, 1933, 76.8 in April, 1933, and 85.4 in May, 1932..

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Expello Corp., Dover, N. H., maker of "Expello" moth killer, is introducing a new cleaner which will sell under the trade name, "Elf". Another new "Expello" product introduced this spring is the moth proof chest.

—o—

Procter & Gamble Co. will pay its regular quarterly dividend of 37½c a share on common stock, August 15, to holders of record July 25. A $2 dividend payment on the 8% preferred stock was made, July 15, to holders of record June 23.

—o—

Go-West Co., Seattle, Wash., has been organized by F. S. Coyne and J. M. Gilman for the manufacture of insecticides.

SOAP presents a *perfuming problem* of a special character. To handle it successfully requires intimate knowledge of soap manufacturing and, above all, experience with soap perfumes.

We have done a considerable amount of work along those lines, and offer several series of soap perfumes of *tried worth.*

Send for *smelling samples.*

Almond	Lemon
Almond—Rose	Lilac
Almond—Cocoa	Lily
Antiseptic Odor	Mint
Bouquets of great variety	Narcissus
Carnation	Orange
Cedar	Oriental
Citrella	Patchouly
Cologne	Pine
Fougere	Pineapple
Gardenia	Rose
Geranium	Sandalwood
Girella	Sweet Pea
Jasmin	Verbena
Lavender	Violet

Also many odors for shampoo and liquid soap

van Ameringen-Haebler, Inc.

Aromatic Essentials

315 Fourth Avenue, New York
180 No. Wacker Drive, Chicago
438 West 48th St., Los Angeles
42 Wellington Street, E., Toronto

Factory, Elizabeth, N. J.

CHICAGO TRADE NOTES

THE golf auxiliary of the Chicago Perfumery, Soap and Extract Association and the Chicago Drug and Chemical Association held its second tournament of the season at Medinah Country Club on June 13. Twenty-eight members played and the following prizes were awarded. Class A: first prize, A. C. Drury, A. C. Drury & Co., with 83-10, net 73; second prize, John Wilhem, Geo. Lueders & Co., with 83-9, net 74; third prize, A. Stephan, Roessler & Hasslacher Chemical Co., with 89-10, net 79; Class B: first prize, E. Davis, Davis & Davis Co., with 83-12, net 71; second prize, Walter H. Jelly, Walter H. Jelly & Co., with 89-16, net 73; third prize, Harry Elwell, Pennsylvania Oil Co., with 91-18, net 73; Class C: first prize, Harry Hitzeman, attorney for the Perfumers' Association, with 102-30, net 72; second prize, J. A. Scott, Merck & Co., with 106-30, net 76; third prize, C. L. Drum, Owens-Illinois Glass Co., with 108-28, net 80. The third tournament will be held on Tuesday, July 18, at the Bob-O-Link Country Club.

* * * *

A Century of Progress, the World's Fair of Chicago, entered its second month with a momentum beyond the original hopes of its exhibitors. The total attendance has increased at a rate far in advance of early estimates. The response of the public to the more educational exhibits, particularly those in the Hall of Science, has been gratifying. The cosmetic, soap and chemical industries are well represented. Among the most attractive exhibits are those of Victor Chemical Works, Yardley & Co., Inc., Iodent Chemical Co., Boyer International Laboratories, Dr. C. H. Berry Co., Franco-American Hygienic Co., John Blocki, Inc., Mallinckrodt Chemical Works, E. R. Squibb & Sons, Princess Pat, Ltd., Bristol-Myers Co., E. Burnham Laboratories, Swift & Co., Colfax Laboratories, Merck & Co., Abbott Laboratories, Heyden Chemical Works, Revelation Tooth Paste Co., Dee's Manufacturing Co., National Oil Products Co., Sun Tube Corporation, The Walgreen Co., House of Hena James, and Owens-Illinois Glass Co.

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Robert A. Carmichael, who has long been widely known among the midwest trade, was appointed, early in June, to the office of general sales manager by the Thayer Sales Corporation.

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William H. Schutte, mid-western representative of P. R. Dreyer, Inc., became a grandfather on June 10, when a son, weighing seven pounds, was born to Mr. and Mrs. John H. McGuire, Jr.

—o—

Albert Verley, Inc., has been appointed exclusive representative in the United States and Canada, of Christo Christoff, Kazanlik, Bulgaria, distiller of otto of rose.

Dr. J. Scott has been made vice-president of Colfax Laboratories and will assume charge of the manufacturing department in the new quarters of this company at 617 N. La Salle St.

—o—

I. D. Faden, founder and manager of I. D. Faden & Co., died suddenly on June 12. Funeral services were held on the following day. Mr. Faden was mid-western representative for many years of Atlantic Manufacturing Co., Art Tube Co., Imperial Metal Mfg. Corp., and T. C. Wheaton Co.

—o—

Dr. Freeland J. Dunn, manager for many years of the Chicago office of W. J. Bush & Co., died at his home on June 19. He is survived by a widow, son and daughter.

—o—

Is "Pure" Geraniol Pure?

The use of the terms "Geraniol, Pure" and "Geraniol, Absolute" for some years is the subject of a short discussion in the June issue of *The Givaudanian*, published by Givaudan-Delawanna, Inc., New York. The article states in part: "Among the misnomers left over from the 'good old times' we have Aldehyde C-14 which is really a Lactone and last but not least 'Geraniol Absolute,' 'Geraniol Pure', etc., which all are not pure Geraniols at all but mixtures of various Rose Alcohols.

"The Geraniol of commerce however high sounding its name may be is nothing but an isolation product from Oil of Citronella Java. The latter has as main constituents: Terpenes, Citronellal, Primary Rose Alcohols, esters of these Alcohols, Sesquiterpene Alcohols and non-distillable matter of residue.

"The fraction containing the primary rose alcohols which cannot be further separated by modern distilling equipment is sold in the trade under the name 'Geraniol Pure' and contains besides Geraniol a certain amount of Citronellol and its isomers."

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A new soap sudsing device has been patented by L. L. Strasburger of Atlanta, Ga. The device is designed for users of liquid soap so that they may purchase a soap concentrate in bulk and make their own liquid soap as needed. The machine is adjustable so that any concentration of liquid soap can be made as required. It operates on either toilet soaps or liquid scrubbing soaps. The adjustment is easily and quickly made and is accomplished with one control handle.

—o—

Pinaud Incorporated, New York, has been completely reorganized, the new head of the concern being Jacques Heilbronn. Marcel Michelin is the new vice-president. One of the first steps of the new management was to discontinue all offers of free goods, effective July 10th. This is in line with the program laid down for the toilet goods industry by Drug Institute of America.

USE YARMOR PINE OIL FOR MANUFACTURING POWDERED SCRUBBING SOAPS

1. Yarmor Steam-distilled Pine Oil is a solvent and detergent.
2. It also is a disinfectant and deodorant.
3. Soaps of this type readily clean garage floors and other oily, dirty surfaces.

For any tough cleaning work, make a powdered scrubbing soap containing Yarmor.

Steam-distilled Pine Oil
Steam-distilled Wood Turpentine
Wood Rosin
Alpha Terpineol
Commercial Abietic Acid
Hercolyn
Nitrocellulose
Chemical Cotton

HERCULES NAVAL STORES

HERCULES POWDER COMPANY
INCORPORATED

961 Market Street *Wilmington, Delaware*

Branch Offices: Chicago, New York, St. Louis, Salt Lake City, San Francisco

QQ-35

PERSONAL AND IMPERSONAL

Iowa Soap Co., Burlington, Iowa, has selected a number of Iowa cities for the introduction of a new product, "Pynaseptic," an all-purpose toilet soap for men. A special campaign is to be made in Fort Dodge, Iowa, to introduce the new product.

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The report of the National Safety Council for 1932 shows that Lever Bros. Co. had the lowest accident frequency rate during 1932 among large plants in the soap industry, with a frequency of 3.90 as against an average of 16.38 for the 19 reporting companies. Among smaller soap plants Perkins Soap Co., Springfield, Mass., had the best record, with no disabling injuries during 21,000 man-hours. For the 19 reporting firms the total number of days lost by injuries was 3,627 out of 23,072,000 man-hours worked.

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Pacific Coast Borax Co. has reduced the price of 20 Mule Team Borax Soap Chips 20%, and is launching a special advertising campaign on this product in the New England territory. The drive will extend through the summer months.

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Rights of Procter and Gamble Co. in "Polo" soap were declared lost in a recent decision of the U. S. Court of Customs and Patent Appeals, as a result of the company's contract with Annie M. Malone, St. Louis, to manufacture "Poro" brand soap for her account. Reversing the decision of the lower court, the Appeals Court ruled that sale of a competing product by Procter & Gamble would have made fulfillment of the Malone contract impossible.

—o—

The Skidoo Co., Columbus, Ohio, maker of "Skidoo Creamy Paste," is carrying on a house-to-house sales campaign designed to promote the use of this product as a kitchen soap paste. A free can is offered to each buyer of a can.

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Walter R. Kirk, Inc., Chicago, maker of "Fancy Dress" soap and flakes, has appointed C. Wendell Muench Co., Chicago, as advertising agent.

—o—

American Home Soap Co., under the management of Laurence B. Updike, has begun operations at 5637 Grove Street, Oakland, Cal.

E. F. Houghton & Co., Philadelphia, soaps and cleaners, announces the appointment of Major A. E. Carpenter as general manager. George W. Pressell becomes assistant general manager and director of sales. Dr. R. H. Patch has been elected treasurer, and Mr. A. E. Carpenter III, secretary. Sales during May were 25% above the figures for May, 1932, and the highest in over a year.

—o—

Application of Pinetrine Co., New York, to register the word, "Pinetrine," as a trademark for soap has been denied by the U. S. Commissioner of Patents on the basis of opposition by Pine Tree Products Co., Newport, N. H., owners of the mark, "Billy B. Van's Pine Tree," for use on soap, cosmetics and toilet preparations. At the same time the right of the applicant to register the "Pinetrine" mark for use on liniment was affirmed.

—o—

The United States Court of Customs and Patent Appeals has affirmed a previous decision of the U. S. Patent Office refusing Lewis W. Gillette the right to register his name as a trademark for shaving cream. Registration was opposed by Gillette Safety Razor Co., holding trademark rights in the name as applied to razors, shaving brushes and shaving soap.

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W. D. Canaday, formerly sales manager of the Home Necessities division of E. R. Squibb & Sons has been appointed general sales manager of Lentheric, Inc., subsidiary of Squibb engaged in the manufacture of cosmetics.

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L. D. Dodson has been appointed manager of the New York office of J. B. Ford Sales Co., effective June 1. Mr. Gline, formerly New York manager, has been assigned to work on national accounts in the New York district.

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Interstate Products Corp., Los Angeles, maker of "Ipsco," a new soap compound for laundries, announces the addition to its staff of J. S. De Forest, well-known technician in laundry practice.

—o—

Quick Klean Kemical Co., Worcester, Mass., soaps, polishes, sweeping compounds, etc., has moved to new quarters at 70 Austin St.

cannot be compared with ordinary perfumes and essential oils. Felton's Coloromes are SCIENTIFICALLY MADE AND TESTED for dependable uniformity and 100% effectiveness.

FELTON CHEMICAL COMPANY, INC.

Executive Offices and Factory—599 JOHNSON AVE., BROOKLYN, N. Y.

Chicago, Ill., Office—1200 NORTH ASHLAND AVE.

Stocks Carried in the Following Cities:

LOS ANGELES, CAL.	SAN FRANCISCO, CAL.	CHICAGO, ILL.	NEW ORLEANS, LA.
WM. PAUER,	A. H. DOREMUS,	M. HARTSTEIN,	ROBERT E. FELTON,
1131 N. Orange Grove Ave.	1282 Folsom St.	1200 No. Ashland Ave.	Balter Bldg., Rm. 407

L. J. Zoeller, in charge of the safety and public relations department of Procter and Gamble Co., has been elected chairman of the Soap Manufacturers Safety Council recently formed in Hamilton County, Ohio.

—o—

A new product has recently been announced by Fuld Bros., Inc., Baltimore. It is a new type liquid pavement cleaner, developed especially to meet the need for a super-detergent on burnt or grease soaked pavements or floors which ordinarily require laborious scrubbing. The new product is a high concentration containing 64% active ingredients. It is said to be stronger than products now used for similar purposes. Although it is more effective than strong caustics, it does not damage brushes, clothing, metals, or other materials. It requires application on only the grimiest spots, and in weak solution bleaches and cleans ordinary dirt and grease during the customary rinsing with pressure hose.

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Complaints of the U. S. Federal Trade Commission against the following companies, arising out of the famous castile case, have recently been dismissed: Armour & Co., Chicago; Globe Soap Co., Cincinnati; Cincinnati Soap Co., Cincinnati; Peet Bros. Co., Kansas City; Hoyt Bros., Inc., Newark.

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Samuel McKnight, auditor for Colgate-Palmolive-Peet Co., died June 7 at his home in East Orange, N. J., at the age of fifty-five. He had been with the Colgate branch of the organization for thirty-eight years.

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The will of the first Viscount Leverhulme, founder of Lever Bros., Ltd., directed that the income arising from a part of his estate should be devoted to the granting of scholarships for "research and education." In pursuance of this direction the trustees of the will have now resolved to devote from income of the fund the sum of £12,000 per annum to the establishment of a scheme of research Fellowships. Fellows will usually be required to work at or in connection with a recognized center, either in Britain or abroad.

—o—

Granell Products Corp., New York, maker of "Kolo," a powdered cleanser which has in the past been distributed in bulk, has announced a new household size package containing about 14 to 16 ounces which will retail at 15c. Cecil, Warwick & Cecil, New York advertising agents, are arranging the campaign for introduction of the new package in the metropolitan market.

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Bobrick Manufacturing Corp., Los Angeles, reports that its "Sop-O-zoN" dispensers have been installed in the *Empress of Britain* and all the new Empress line boats.

—o—

Sapoline Co., formerly located at Walkerville, Ont., Canada, has moved to 1020 Ottawa Street, Windsor.

Cecil Smith, managing director of Yardley & Co., New York, and president of the Associated Manufacturers of Toilet Articles, sailed for England on the *Georgic*, June 17, accompanied by Mrs. Smith and their daughter. Mr. Smith will return late in August.

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American Chemical Co., Baltimore has leased a one-story building at 425 West St., and has made arrangements for installation of machinery for the manufacture of floor polish and other products. Ralph L. Jones heads the enterprise.

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Wilbert Products Co., New York, has placed its advertising account with N. W. Ayer & Son, Inc. The company makes household ammonia, a chlorine bleach, furniture polish and floor wax.

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Widnes Soap Co., Ltd., has opened a new plant at Farnworth, England. The company manufactures "Double-Seven" soap.

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R. D. Keim, general sales manager of E. R. Squibb & Sons, has been elected a vice-president of the company and will continue to act as director of sales. Mr. Keim has been associated with Squibb since 1904 and was the company's first salesman.

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Amberline Products, Ltd., Victoria, B. C., is reported to be planning an enlargement of its plant for the manufacture of soaps, waxes and polishes.

—o—

The office of the Associated Manufacturers of Toilet Articles has been moved to 30 Rockefeller Plaza, New York, where it has been consolidated with the office of the credit bureau of the Perfumery Importers' Association.

—o—

Continental Car-Na-Var Corp., Brazil, Ind., has organized a subsidiary company to operate in Canada, and has leased space at 20 Trinity Street, Toronto, where the company's line of floor waxes, soaps, etc., will be manufactured. W. S. Martin will be in charge of operations.

—o—

Mason City Rendering Works, Mason City, Iowa, has been purchased by the General By-Products Co., Inc., Omaha, Nebr., with E. J. Lindhardt named as general manager of the firm. It is likely that new lines will be added under present ownership.

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Henri, Hurst & McDonald, Chicago, are now advertising agents for S. O. S. Mfg. Co., Chicago, maker of "S. O. S." cleaner.

—o—

Mellocraft Co., Toledo, is introducing a new transparent liquid wax.

GRASSELLI TRI-SODIUM PHOSPHATE

As our process permits GRASSELLI Tri-Sodium Phosphate to *cure*, it is FREE FLOWING. Non-Sifting Packages. Shipped to you in barrels with paper liner—no loss either in transit or storage. Also comes in kegs and bags. Grades—fines, medium, coarse, flake and globular. Let us figure on your T. S. P. requirements. If you are in a hurry, call up our nearest branch.

Let us also quote you on—

Silicate of Soda	Carbon Tetrachloride
Caustic Soda	Paradichlorobenzene
Soda Ash	Sodium Fluoride

THE GRASSELLI CHEMICAL COMPANY
INCORPORATED
CLEVELAND OHIO

New York and Export Office: 350 Fifth Avenue

BRANCHES AND WAREHOUSES

Albany	Charlotte	Detroit	New Orleans	St. Louis
Birmingham	Chicago	Milwaukee	Philadelphia	St. Paul
Boston	Cincinnati	New Haven	Pittsburgh	

SAN FRANCISCO—584 Mission St. LOS ANGELES—2260 E. 15th St.

Represented in Canada by CANADIAN INDUSTRIES, LTD.
Acids and General Chemicals Division—Montreal and Toronto

RECORD OF TRADE-MARKS

The following trade-marks were published in the June issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

NU WAY—This in shaded script describing shaving cream. Filed by Ovelmo Co., Fort Wayne, Ind., Apr. 27, 1933. Claims use since Sept. 1, 1932.

BREVO—This in solid letetrs describing shaving cream. Filed by Daggett & Ramsdell, New York, Apr. 29, 1933. Claims use since Apr. 4, 1933.

RED CAP—This in solid letters describing washing fluid. Filed by C. M. Kimball Co., Everett, Mass., Jan. 7, 1933. Claims use since Nov. 7, 1932.

WILKIL—This in solid letters describing insecticide. Filed by American Mothproof Co., Los Angeles, Jan. 14, 1933. Claims use since Nov. 3, 1932.

KHYLEX—This on reverse plate describing cleaning preparation. Filed by Khylex Chemical Co., Alexandria, Va., Mar. 28, 1933. Claims use since Mar. 1, 1932.

DERRITOX—This in solid letters describing flea powder and shampoo. Filed by J. L. Hopkins & Co., New York, Apr. 3, 1933. Claims use since Nov. 30, 1932.

THYMOGEN—This in solid letters resembling script describing antiseptic. Filed by Thymogen Laboratories, Cincinnati, Apr. 4, 1933. Claims use since Mar. 20, 1933.

BI-NITRO—This in solid letters describing antiseptic. Filed by Bi-Nitro Syndicate, Hollywood, Calif., Apr. 27, 1933. Claims use since Nov. 28, 1932.

KLENOX—This in form of circular brand describing disinfectant and cleaner. Filed by Klenox Chemical Co., Carthage, N. Y., Feb. 2, 1933. Claims use since Aug. 18, 1932.

SILVER TIP—This in outline letters describing insecticide and disinfectant. Filed by Colorado Fuel & Iron Co., Denver, Mar. 20, 1933. Claims use since May 7, 1392, on exterminator, May 14, 1932, on disinfectant, and July 20, 1932, on insecticide and stock spray.

PHEMEROL—This in solid letters describing antiseptic and germicide. Filed by Parke, Davis & Co., Detroit, April 10, 1933. Claims use since March 29, 1933.

BLOCK'S FACE SERENE—This in solid letters with geometric design describing germicide and antiseptic. Filed by Harry J. Block, Ellensburg, Wash., April 11, 1933. Claims use since July, 1930.

SKETCH OF CHINESE BOY describing cleaning preparation. Filed by Fel-So Corp., New York, August 16, 1932. Claims use since July 15, 1930.

NEUTRALIS—This in solid letters describing dentifrice. Filed by Neutralis, Inc., Cincinnati, Feb. 6, 1933. Claims use since Feb. 3, 1933.

INSECTO-FUME-FUMICIDE—This in solid letters describing insecticide. Filed by Frank Laboratories, Cincinnati, April 6, 1933. Claims use since January 20, 1933.

MOTHICIDE—This in outline letters describing insecticides. Filed by North Metal & Chemical Co., York, Pa., April 8, 1933. Claims use since April 14, 1925.

COM-PAX—This in script describing antiseptic. Filed by Com-Pax Sales Co., Salt Lake City, Utah, October 6, 1932. Claims use since July, 1931.

FLI-D-CO.—This in solid letters with sketch of fly, describing insecticide. Filed by C. B. Dolge Co., Westport, Conn., April 29, 1933. Claims use since June, 1929.

PROFESSIONAL—This on reverse plate describing dental cream. Filed by Winchester Surgical Supply Co., Charlotte, N. C., April 29, 1933. Claims use since Sept. 15, 1932.

WORCESTER—This on reverse plate describing tooth paste. Filed by Worcester Salt Co., New York, May 6, 1933. Claims use since December 17, 1931.

Y-PON—This on reverse plate describing auto polish. Filed by Puritan Soap Co., Rochester, N. Y., May 3, 1933. Claims use since April 4, 1933.

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Trade Marks Granted

303,668. Floor and Furniture Polish. Bates Sant-I-Mist Manufacture Co., Houston. Filed November 28, 1932. Serial No. 332,566. Published March 7, 1933. Class 16.

303,717. Prepared Liquid Wax. Van Tine Laboratories, Inc., New York. Filed March 22, 1932. Serial No. 325,378. Published March 14, 1933. Class 16.

303,761. Mechanical Water Softeners. H. L. G. Co., Kalamazoo, Mich. Filed January 3, 1933. Serial No. 333,586. Published March 21, 1933. Class 23.

303,906. Soaps. Comfort Manufacturing Co., Chicago. Filed February 16, 1933. Serial No. 335,017. Published March 28, 1933. Class 4.

303,919. Shampoo. John A. Hamill, New York. Filed January 19, 1933. Serial No. 334,102. Published March 28, 1933. Class 6.

303,923. Cleansing Compound. Takamine Laboratory, Inc., Clifton, N. J. Filed Jauuary 21, 1933. Serial No. 334,236. Published March 28, 1933. Class 4.

303,983. Shaving Cream. Ph. D. Products Co., Philadelphia. Filed January 9, 1933. Serial No. 333,773. Published March 28, 1933. Class 4.

304,029. Toilet Soaps. Manhattan Soap Co., New York. Filed January 19, 1933. Serial No. 334,109. Published April 4, 1933. Class 4.

304,040. Antiseptic and Germicide. Hewitt Laboratories, Inc., New York. Filed January 13, 1933. Serial No. 333,884. Published March 28, 1933. Class 6.

304,043. Antiseptic. L. C. Smith Laboratory, Canton, Ohio. Filed January 3, 1933. Serial No. 333,613. Published March 28, 1933. Class 6.

304,054. Tooth Paste. Worcester Salt Co., New York. Filed November 26, 1932. Serial No. 332,503. Published April 4, 1933. Class 6.

304,092. Insecticides. Redicide Co., Minneapolis. Filed July 9, 1932. Serial No. 328,660. Published April 4, 1933. Class 6.

304,125. Soaps. Blue Heven, Corp., North Kansas City, Mo. Filed February 17, 1933. Serial No. 335,051. Published April 11, 1933. Class 4.

304,135. Washing Powder. Stevens Soap Corp., Brooklyn, N. Y. Filed February 13, 1933. Serial No. 334,937. Published April 11, 1933. Class 4.

304,136. Shoe Polish. S. H. Kress & Co., New York. Filed February 11, 1933. Serial No. 334,876. Published April 11, 1933. Class 4.

304,140. Household Cleaning Preparation. Ernest John Mallett, Riverdale, Md. Filed February 14, 1933. Serial No. 334,966. Published April 11, 1933. Class 4.

304,143. Antiseptic. Helm Company, Benton Harbor, Mich. Filed February 8, 1933. Serial No. 334,750. Published April 4, 1933. Class 6.

304,155. Insect Spray. The Dill Co., Norristown, Pa. Filed February 2, 1933. Serial No. 334,556. Published April 4, 1933. Class 6.

304,159. Liquid Polish. Continental Car-Na-Var Corp., Brazil, Ind. Filed February 1, 1933. Serial No. 334,514. Published March 28, 1933. Class 16.

304,197. Automobile Cleaner and Polish. Sears, Roebuck and Co., Chicago. Filed February 6, 1933. Serial No. 334,692. Published April 11, 1933. Class 16.

304,209. Liquid Soap. Hercules Powder Co., Wilmington. Filed February 11, 1933. Serial No. 334,872. Published April 18, 1933. Class 4.

304,229. Insecticide. James A. Henderson, Turlock, Calif. Filed January 16, 1933. Serial No. 334,034. Published April 18, 1933. Class 6.

304,274. Soaps. David Edward Bailey, Hamlet, N. C. Filed February 11, 1932. Serial No. 324,136. Published April 18, 1933. Class 4.

304,280. Insecticides. Wizard, Inc., Chicago. Filed April 4, 1932. Serial No. 325,813. Published April 11, 1933. Class 6.

304,293. Cleaning Compound. Pretone Co., Camden, N. J. Filed February 25, 1933. Serial No. 335,278. Published April 18, 1933. Class 4.

304,308. Shaving Cream. Goldblatt Bros., Chicago. Filed November 5, 1932. Serial No. 331,926. Published January 3, 1933. Class 4.

304,314. Shaving Soap. Bond Manufacturing Corp., Wilmington. Filed December 7, 1932. Serial No. 332,834. Published January 24, 1933. Class 4.

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The Industrial Recovery Act

(*From Page* 19)

ONE important thing that some soap makers have inquired about is the question of price regulation under the Act. In some branches of the industry price competition has been severe, and a tangible result in restraining excessive cut pricing under the Act might be warmly welcomed in some quarters.

Although the Administration wants to avoid anything resembling actual price fixing, it is beginning to look with a far more lenient view on group negotiations dealing with reasonable and necessary stabilization. As a matter of fact, Washington has within recent days suggested two methods by which very practical steps toward price regulation might be worked out.

The first of these has already been touched upon. It is the prevention of sales below cost of production and distribution. Costs might be ascertained by the trade association through a carefully developed uniform cost accounting system. At first glance some may think this impracticable and not likely to be effective, but when it is considered that there is provision in the Act itself whereby the President may require accounting and full reports, it becomes evident that under this part of the new deal a practical method of accomplishing definite results can be found if a majority of an industry, or a division thereof, so desire. Such plan can include a system for checking individual sales, prices, and costs wherever violations of the code might be involved. Policing individual firms by the government is not, of course, contemplated. Each industry would do its own policing through its trade associations. Very probably the actual policing would be done by competitors, who would report violations to the association as an enforcing agency. After investigation by the association, if the offending firm refused to reform, the government would step in. If the violator still persisted, federal district attorneys could prosecute under the Act. Violators of codes are subject to fines of $500 per day for each day's violation. Not for long would many firms sell below cost under such conditions, if sales below cost were forbidden by the code. But even this is not all. For continued viola-

tion the heads of the business in question could be imprisoned.

The Act has a still further provision. When necessary licenses can be required as a condition for doing business in any industry or branch thereof, and since the government can determine the conditions of the license, there is in the final analysis the power of complete control. The licensing provision is however, a last resort and is not expected to be used except under extraordinary conditions. The licensing provision is nevertheless a big stick, hidden away in a closet, which can be taken out for use whenever the President and his advisors find it necessary.

A second method suggested by Washington for controlling prices is by publicly announced open price schedules. If this method is determined upon by a majority of an industry, or by a division thereof, all firms would be required to file complete price lists with the association, on a basis equivalent to a public declaration that the prices stated are a minimum below which goods are not sold unless and until new price schedules are filed. Such price lists can if necessary be published. If sales are made below these figures without due and proper announcement of change, the offender becomes subject to every procedure outlined above, including prosecution, fine and imprisonment. This is on the assumption that Washington would approve codes calling for open price schedules. The mere existence of such machinery would forestall most violations, and a few vigorous prosecutions would keep possible offenders in line.

Setting Up the Association

NOW as to the actual steps in setting up a new soap association for the entire industry,—late in July there will be a meeting of the board of the Association of American Soap and Glycerine Producers. At that time a code covering hours and wages, and possibly other broad fundamentals, will be tentatively drawn up for submission to the industry. This has already been the subject of discussions at two meetings of the board, but even tentative conclusions have been deferred until Washington's desires become clearer through action on the codes of major industries. Likewise it was desired to invite suggestions from the industry. As a first step, a questionnaire was sent out to all companies in the soap business whose addresses were known. The questionnaire was intended to reach every soap maker whether or not soap is their major product. Some firms may not have received one of these questionnaires. Others may have failed to fill it out and send it in. If a questionnaire has not been sent in, it is urgently asked that one be requested from the Association of American Soap and Glycerine Producers, 386 Fourth Ave., New York, and that it be filled in and returned to the association at once. This information is important to complete the preliminary steps to organize the soap industry.

(*Continued on Page* 47)

New Patents

Conducted by

Lancaster, Allwine & Rommel

Registered Attorneys

PATENT AND TRADE-MARK CAUSES

815 15th St., N. W., Washington, D. C.

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 1,910,454. Method of Producing a Detergent Solution, Patented May 23, 1933, by Stuart A. Weir, Dallas, Texas, assignor to Tridex Corporation, Dallas, Texas, a Corporation of Delaware. The method of producing a surface treating stream which includes continuously producing a hot fluid of water content, dissolving a soluble detergent material with a portion of hot fluid to form a hot concentrated solution, flowing the solution and while the solution is flowing diluting it with another portion of the hot fluid in the form of hot water, converting another portion of the hot fluid separately into saturated steam, and admixing the steam with the diluted stream, whereby the heat of the steam is reduced and the stream is impelled by the energy of the steam.

No. 1,911,551, Insect Repellent, Patented May 30, 1933, by Clarence R. Cleveland, Homewood, Ill., assignor to Standard Oil Company, Chicago, Ill., a Corporation of Indiana. An insect repellent comprising a mixture of a refined mineral oil and an alkyl ester of salicylic acid, the alkali group containing at least four carbon atoms.

No. 1,912,123. Production of Fatty Acids, Patented May 30, 1933, by Christoph Beck, Ludwigshafen-on-the-Rhine, Heinrich Diekmann, Mannheim and Franz Kremp, Ludwigshafen-on-the-Rhine, Germany, assignors to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. The process for removing organic nitrogen compounds from fatty acids, prepared by the destructive oxidation of hydrocarbon mixtures by means of oxygen compounds of nitrogen, which comprises heating the crude fatty acids to temperatures above 150° C. in the presence of an aqueous solution of a hydrolyzing agent having in water a degree of dissociation above that of ammonia and selected from the group consisting of caustic soda, caustic potash, caustic lime and sulphuric, hydrochloric and phosphoric acids.

No. 1,912,141. Method of Fumigation, Patented May 30, 1933, by Jesse P. Hubbell, New Rochelle, N. Y. The method of fumigating which consists in exposing dry calcium cyanide to the action of an atmosphere having sufficient humidity to decompose the cyanide and thereby

(*Continued on Page* 45)

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CAUSTIC SODA
HIGHEST GRADE
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SEE "CHLOROZIF" PAGE 104.

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Sanitary Chemicals for Jobbing Trade

CONTRACTS AWARDED

General Soap Co., San Francisco, has been awarded contracts by the U. S. Army Quartermaster at Fort Mason for quantities of laundry soap at 2.57c and 2.59c, the latter lot being for export. Newell-Gutradt Co., San Francisco, was awarded a quantity of scouring soap at 2.75c. John Rotschild & Co., San Francisco, awarded quantity of caustic soda at 6.12c.

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Colgate-Palmolive-Peet Co. has been awarded contracts for 11,630 lbs. chip soap for Chicago U. S. Army Quartermaster at a price of 5.5c. Iowa Soap Co., Burlington, Iowa, awarded 10,030 lbs. at 6.2c. Detroit Soda Products Co., Washington, awarded 34,400 lbs. laundry soda at prices ranging from 1.54c to 2.79c. H. H. Rosenthal Co., New York, awarded 10,000 lbs. naphthalene at 5.25c. Innis Speiden & Co., Chicago, awarded 1,675 lbs. naphthalene at 5.75c.

—o—

Midway Chemical Co., Chicago, has been awarded a contract for 2,500 cans stove polish for the Chicago U. S. Army Quartermaster in a recent bidding at a price of 5c. B. F. Babbitt, New York, awarded 23,040 lbs. caustic soda at 5.25c. Cotton Specialty Co., Chicago, awarded 36,000 cotton mops at 16.4c.

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Solvay Sales Corp., Chicago, has been awarded a contract covering 7,000 lbs. laundry soda for Chicago U. S. Army Quartermaster at a price of 2c. Detroit Soda Products Co., Washington, awarded 3,080 lbs. at 1.8c. Sterling Supply Co., Phila., awarded 350 lbs. laundry sour at 7.5c.

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A contract for 5,000 lbs. of naphthalene was recently awarded to E. I. du Pont de Nemours & Co. at a price of 4.5c lb., material to be supplied to the Philadelphia U. S. Army Quartermaster.

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Newell-Gutradt Co., San Francisco, has been awarded a contract for a quantity of scouring soap for the Fort Mason U. S. Army Quartermaster at a price of 6.9c.

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The following bids were entered on 636,000 lbs. soap powder for General Supply Committee, Washington, in a recent bidding: Armour & Co., zone 1, 1.99c; 2, 2.6c; 3, 3.9c; Swift & Co., 2%, zone 1, 1.98c; 2, 2.16c; 3, 2.5c; Colgate-Palmolive-Peet Co., zone 1, 1.69c & 2c; 2, 1.89c & 2.22c; 3, 2.24c & 2.64c; John T. Stanley, 2%, zone 1, 3.375c; 2, 4.5c; 3, 5.25c; R. P. Ducas Co., 1%, zone 1, 1.89c; 2, 2.09c; 3, 2.49c; Walter W. Miller, zone 1, 3.5c; 2, 3.5c; Cudahy Packing Co., 2%, zone 1, 2.89c; 2, 3.22c; 3, 3.85c; Du Bois Soap Co., zone 1, 1.41c; 2, 1.62c; 3, 1.98c; General Soap Co., zone 3, 3.4c, and Keene Washing Products Co., zone 1, 1.5c & 1.6c, part bid.

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Solvay Sales Corp., St. Louis, has been awarded a contract for 24,360 lbs. laundry soda for Fort Sam Houston Quartermaster at 2.25c.

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The Fort Sam Houston Quartermaster has rejected all bids on 45,000 lbs. laundry soap because of insufficient funds.

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The Perfumery & Cosmestic Institute, Inc., has been organized by a group of firms manufacturing perfumes and toilet preparations, not affiliated with the Associated Manufacturers of Toilet Articles. Charles A. Pennock, Richard Hudnut, New York, has been elected president of the new organization. Jean Despres, Coty, Inc., New York, is vice-president; A. J. Burke, of Helena Rubinstein, Inc., New York, is secretary and treasurer; and Ralph H. Aronson, Bourjois, Inc., and Charles W. Darr, of Harriet Hubbard Ayer, Inc., have been named directors. The purpose of the new institute is to operate under the provisions of the Wagner National Recovery Act.

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Manufacturers Soap & Chemical Co., Cleveland, Tenn., has just completed an extensive addition to its plant.

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Citrus Soap Co., San Diego, is introducing a new 40-ounce package of "Citrus" granulated soap, on which it has set a stop price of 27c. A new advertising campaign was also inaugurated, featuring Gay Seabrook and Emerson Treacy, in "Growin' Up."

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DuBois Soap Co., Cincinnati, has recently introduced a new vegetable oil cleaner for bus washing purposes. It is packed in a steel-self-mixing drum, and is recommended for use in the proportion of 1 gal. to 40 gal. of water.

Market Report on

ESSENTIAL OILS AND AROMATICS

(*As of July* 8, 1933)

NEW YORK—Essential oils continued to move into higher ground this period, prices rising as the value of the American dollar fell in world markets. Although the general trend was still upward there were a few minor downward adjustments as dealers found that the speed of the advance had been too swift in some directions. Peppermint oil continued as the leading feature of the market, prices again advancing sharply as reports of crop damage were confirmed in responsible sources. Other oils which participated in the advance included anise, cassia and citronella, all quoted higher in recent cables from producing areas. A number of synthetic aromatics, including anethol and anisic aldehyde, also moved higher, due to higher cost of raw material.

Anise Oil

Anise oil moved two cents a pound higher this period, being quoted currently at 37c to 39c lb. The advance was due primarily to movements in silver and exchange bringing higher demands by sellers from American purchasers.

Cassia Oil

A moderate advance was noted in cassia oil this period due to higher cables from primary markets. The current range is $1.00 to $1.05, with 95c quoted on drums.

Citronella Oil

Java and Ceylon oils moved upward this period, following the advance in sterling exchange. Shipment prices eased at one point, but the advance was later resumed. Java oil is quoted currently at 46c to 50c lb., with ceylon at 36c to 38c lb.

Geranium Oil

Although no advance has been made in spot quotations on this oil, the market is very firm due to higher replacement costs.

Lavender Oil

Slightly higher prices are being quoted on this oil due to strength of French exchange. The pressure of substantial stocks has prevented any but a moderate advance.

Peppermint Oil

The rise in peppermint oil continued this period, a series of advances bringing the quotation on natural oil to $2.75 to $2.95 lb. Reports from mid-west producing areas confirm the fact that severe crop damage has been suffered, although in view of the substantial carryover stocks no real shortage may be expected.

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F. H. Ungerer, president of Ungerer &Co., New York, sailed for Europe on the *Ile de France*, June 17, and will confer with officials of companies represented by Ungerer & Co. in France, Switzerland, Italy and England before returning to New York late in August.

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The marriage has recently been announced of Miss Nanette Streit and Dr. Ernest S. Guenther, chief research chemist for Fritzsche Bros., Inc., New York. Dr. and Mrs. Guenther are at present in Europe, it being Dr. Guenther's annual custom to visit the essential oil-producing regions during the growing season.

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Dr. A. T. Frascati, formerly perfumer for Ungerer & Co., New York, and previously for Givaudan-Delawanna, Inc., New York, has gone to the Pacific coast to join the organization of Max Factor & Co., Hollywood. Dr. F. A. Marsek, cosmetic consultant, formerly with Palmolive-Peet Co., has also become associated with the Factor organization.

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W. E. Jewett, previously associated with the Industrial Chemical Sales Co., New York, in charge of advertising and sales promotion, has again become connected with the company in an executive capacity. Mr. Jewett will take over some of the work previously handled by Joseph Wafer who recently resigned to become associated with Rossville Alcohol.

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Guaranty Washing Co., New York, is now offering for sale a new product for rug washing which sells under the name, "Klix." The product is a mixture of soap and builders and is said to avoid the drastic and injurious actions of some alkali cleaners while still eliminating the sticky residue of others. It is packed in barrels, 20 lb. cartons and 8 oz. boxes. The formula was developed by Dr. Foster D. Snell, of Foster D. Snell, Inc., Brooklyn, consulting chemists.

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Exports of Java citronella oil from Java for the first five months of 1933 totaled 596,000 kgs., as reported by N. V. Handel-Maatschappij "Stille Zuidzee." Exports in May were 162,000 kgs.

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Dodge & Olcott Co., New York, has issued its summer catalog and price list covering essential oils, aromatics, etc.

Market Report on

SOAP AND DISINFECTANT CHEMICALS

(*As of July* 8, 1933)

NEW YORK—A number of new firm points in the market for soap, disinfectant and insecticide materials developed this period, one of the most spectacular being a precipitate rise in the price of pyrethrum flowers and concentrated extracts. Stocks are admittedly very short both here and in primary markets and the cost of imported flowers is said to have risen almost 100 per cent. Withdrawals of alkalis continued heavy, with the usual seasonal let-up not yet in evidence. Another series of price rises was uncovered in the gum and wax markets. In view of recent movements in foreign exchange in which the value of the dollar has depreciated sharply, prices of imported materials have advanced sharply.

Alkalis

Demand for alkalis, particularly from the glass and textile industries continued strong, the usual seasonal recession not yet being apparent. Soap makers also withdrew substantial tonnages against contract, their operations having increased moderately in recent months. The result has been a firming of the price structure on spot business.

Glycerin

No quotable change has been made in the price of glycerin, although the market is distinctly firmer. Sellers have higher ideas in view of the general upward trend of commodities. Buyers seem anxious to contract ahead at present prices, but this prospect does not appeal to suppliers.

Naval Stores

Rosin quotations moved moderately higher this period in spite of a rather substantial increase in arrivals. Shipments continued large with the result that stocks were lower at the end of the period. The closing schedule was: gum rosin, grade B, $4.50; H, $4.90; K, $4.95; N. $5.05; WG, $5.15; WW, $5.40; wood, $4.43 to $4.63.

Pyrethrum

The price of pyrethrum powder shot up from 20c to 30c lb. this period, as suppliers found that they would have to continue to pay substantially higher prices for flowers. Extract prices also moved upward correspondingly. There is said to be an acute shortage of spot stocks and suppliers do not seem to be interested in doing more than taking care of their own accounts. The factors behind the present situation are a shortage of stocks in primary markets, the prospect of a small new crop in August, exchange movements against the American dollar and a desire on the part of foreign producers to make as much as possible out of the situation.

Waxes

Prices of the various waxes were advanced all along the line this period, the general background being higher prices in primary markets due to exchange movements. In the case of carnauba wax there was an added factor in an almost complete absence of stocks. Current prices are strictly nominal, and even after the arrival of a shipment en route, spot stocks will not be greatly increased as most of the material has been sold ahead against arrival. The nominal market for No. 1 barnauba wax is 30c lb.

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New Patents

(*From Page* 41)

Baker Castor Oil Co., New York, is distributing a pamphlet dealing with the use of Baker emulsion oils in the preparation of automobile and furniture polish. Copies may be obtained by addressing the publishers of *Soap*.

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Homestead Valve Manufacturing Co., Coraopolis, Pa., has recently appointed the Clark-Wilcox Co., Boston, as exclusive representatives in the New England states for sale of its "Hypressure Jenny,' a vapor spray machine for automotive, industrial and building cleaning.

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liberate hydrocyanic acid gas at a rate effective to secure the desired fumigation effect.

No. 1,912,175. Alkaline Detergent Compositions and Method of Rendering the Same Non-Corrosive to Aluminum, Patented May 30, 1933, by Earl Blough, Pittsburgh and Harry V. Churchill, Parnassus, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a Corporation of Pennsylvania. A mildly alkaline detergent composition containing about 0.07 to 0.4 per cent of sodium silicate serving to inhibit corrosion of an aluminum container when the composition is packaged therein.

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No. 1,906,484. Soap Preparation, Patented May 2, 1933, by Joseph Nuesslein, Ludwigshafen-on-the-Rhine, Germany, assignor to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Soap preparations comprising an alkali metal soap and from 100 to about 1000 per cent, by weight of the soap, of neutralized sulphonic acid corresponding to the formula $R.COO.C_2H_4SO_3H$ in which R.COO is the radicle of a fatty acid of vegetal origin.

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Coco Oil—60%—Natural, Opal, Green

LIQUID SOAPS
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Olive Oil .... 10% to 30%
Colored and Perfumed

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Pine, Sassafrass, Plain

LIQUID SHAMPOOS
Coconut Oil .. 30% to 45%
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Castile 30%

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FANCY - EXTRA and SPECIAL TALLOW
Fatty Acids

Theobald Animal By-Products Refinery

KEARNY, N. J.
ESTABLISHED 1914

Market Report on

TALLOW, GREASES AND OILS

(*As of July* 8, 1933)

NEW YORK—After the spectacular rises of the past few months prices of soapmaking oils, fats and greases showed a more stable tendency this month. There were still a number of advances, one over a cent a pound, but interspersed with them were fractional declines on some oils. The pace of the advance seemed to slow up due to buyer's resistance to meeting the sharply higher ideas of sellers. Coconut oil continued to lag behind the rest of the market in an unexplainable manner. True, arrivals of copra at Manila have been heavy, and stocks of oil are plentiful, but in view of the almost vertical rise in the price of most oils, some sympthetic upward movement should certainly have been noted in coconut oil. The domestic products continued to be the strongest ones this period, soya bean oil rising abruptly and cottonseed and corn oils showing gains of a half-cent a pound.

Coconut Oil

The price of coconut oil eased off a quarter of a cent a pound this period, the current quotation on New York tanks of Manila oil being 3¼c to 3⅜c lb., while coast tanks are offered at 3c to 3⅛c lb. Heavy arrivals of copra and excess stocks of oil continue to depress the oil in the international market, but it is surprising that more interest is not shown by American consumers, particularly the soap industry, in view of the sharp advances in competing products.

Corn Oil

Corn oil moved upward again this period, due principally to higher prices for grain in the commodity markets. Offerings of oil were small and easily absorbed at prices ranging from 5⅛c to 5¼c lb. for tanks at mill.

Cottonseed Oil

A number of factors combined to keep cotton and cotton oil prices on the up-grade this period. Lack of rain in the south, talk of a cut in cotton acreage through government lease of marginal lands and the general spirit of speculative optimism in commodity and security exchanges were all factors. The current market for crude tanks is 4¾c to 5c lb. with PSY oil quoted at 5¾c.

Soya Bean Oil

This oil was the strongest feature of the market this period, its price rising over a cent a pound. Shortage of seed and oil and a consequent drop in offerings were responsible for the strength. Quoted currently at 7½c lb. for domestic tanks.

Tallow

Tallow prices showed no net change at the end of the period after having been fractionally higher and lower at several points during the month. The current quotation is 3⅞c lb. for city extra. Greases were likewise unchanged from previous close.

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The Industrial Recovery Act

(*From Page* 41)

The board of the Association of American Soap and Glycerine Producers is unanimous in its feeling that the general soap association called for under the new Act must be a new one and entirely separate from the present organization. All the membership of the present association would undoubtedly join the new association at once. Through sectional meetings to be held shortly probably at Boston, New York, Chicago, Cincinnati, San Francisco, and possibly other centers, regional groups will be invited to meet together to organize as part of the new national group. These sectional meetings will be given full opportunity to discuss all provisions desired by them to be included in the general soap code. These meetings will also discuss what may be desired in the way of local organization, divisional organization, and supplemental provisions to the general code or for special divisional codes.

The basis for the formation of the new association would be full protection for the small soap makers with no undue power wielded by the larger units of the industry. This is in accord with the provisions of the Act.

Without losing time it is believed that a simple basic code can be put into shape for submission to Washington by early Fall. Based upon the procedure outlined above, such a code should be truly representative of the wishes of the whole American soap industry.

The opportunity to organize with full representation for every soaper in the land is present. It is again earnestly requested that suggestions and comments be sent to the Association of American Soap and Glycerine Producers at the address given above. Particular attention in suggestions should be given to what is the maximum number of hours of labor desired per week, the minimum wages for unskilled labor, and what are the basic provisions for a code to govern competition and put the industry upon the soundest possible basis. Communications should also indicate willingness to cooperate with all soapers to the fullest extent including meeting with other soapers in sectional meetings when such meetings may be called sometime next month, even though for this important purpose vacation plans may have to be set aside.

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Sole Importers for the U. S. A.

CURRENT PRICE QUOTATIONS

As of July 8, 1933

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	.08½	.10
Acid, Boric, bbls., 99½%	ton	95.00	100.00
Cresylic, 97% dk., drums	gal.	.37	.40
97-99%, pale, drums	gal.	.42	.45
Oxalic, bbls	lb.	.11	.11¼
Adeps Lanae, hydrous, bbls	lb.	.14	.15
Anhydrous, bbls	lb.	.15	.16
Alcohol, Ethyl, U. S. P., bbls	gal.	2.45	2.59
Complete Denat., No. 5, drums., ex.	gal.	.38½	.46¼
Alum. potash lump	lb.	.03	.03¼
Ammonia Water, 260, drums, wks	lb.	.02½	.02¾
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bleaching Powder, drums	100 lb.	1.75	2.35
Borax, pd., cryst., bbls., kegs	ton	50.00	55.00
Carbon Tetrachloride, car lots	lb.	—	.05¼
L. C. L.	lb.	.06	.08½
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U. S. P., drums	lb.	.09	.10
Cresote Oil tanks	gal.	.11½	.12½
Feldspar	ton	14.00	15.50
(200 to 325 mesh)			
Formaldehyde, bbls	lb.	.06	.07
Fullers Earth	ton	15.00	24.00
Glycerine, C. P., drums	lb.	.10¼	.10½
Dynamite, drums	lb.	.08¼	.09
Saponification, drums	lb.	.05	.05½
Soaps, Lye, drums	lb.	.04½	.05
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	1.70	2.20
Mercury Bichloride, kegs	lb.	.93	1.08
Naphthalene, ref. flakes, bbls	lb.	.04¾	.06
Nitrobenzene (Myrbane) drums	lb.	.09½	.11
Paradichlorbenzene, bbls., kegs	lb.	.15	.23
Paraformaldehyde, kegs	lb.	.38	.39
Petrolatum, bbls. (as to color)	lb.	.01⅞	.06¾
Phenol, (Carbolic Acid), drums	lb.	.14¼	.16
Pine Oil, bbls	gal.	.59	.65
Potash, Caustic, drums	lb.	.06⅛	.07⅛
Flake	lb.	.07	.08⅝
Potassium Bichromate, casks	lb.	.08	.08½
Pumice Stone, powd	100 lb.	2.50	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs	bbl.	4.50	4.90
Grade K to N	bbl.	4.95	5.05
Grade WG and WW	bbl.	5.15	5.40
Wood	bbl.	4.43	4.63
Rotten Stone, pwd. bbls	lb.	.02½	.04½
Silica, Ref., floated	ton	18.00	22.00
Soap, Mottled	lb.	.04⅛	.04⅜
Olive Castile, bars	lb.	.09	.12
powder	lb.	.17	.22
Olive Oil Foot	lb.	.04½	.06
Powdered White, U. S. P.	lb.	.16	.20
Green, U. S. P.	lb.	.06½	.08
Tallow Chips	lb.	.06	.06½
Whale Oil, bbls	lb.	.05	.06
Soda Ash, contract, wks, bags, bbls.	100 lb.	1.17½	1.43
Car lots, in bulk		—	1.05
Soda Caustic, Cont., wks., sld.	100 lb.	—	2.55
Flake	lb.	—	2.95
Liquid, tanks	lb.	2.15	2.20
Soda Sal., bbls	100 lb.	1.05	1.15
Sodium Chloride (Salt)	ton	11.40	14.00
Sodium Fluoride, bbls	lb.	.07½	.08½
Sodium Hydrosulphite, bbls	lb.	.22	.26
Sodium Silicate, 40 deg., drum,	100 lb.	.75	.80
Drums, 60 deg. wks	100 lb.	—	1.65
In tanks, 15c. less per hundred, wks.			
Tar Acid Oils, 15-25%	gal.	.21	.25
Trisodium Phosphate, bags, bbls	lb.	.03	.0390
Zinc Oxide, lead free	lb.	.06	.06¼
Zinc Stearate, bbls	lb.	.16	.18

Oils—Fats—Greases

Castor, No. 1, bbls	lb.	.09	.10
No. 3, bbls	lb.	.08¾	.09½
Coconut			
Ceylon, Coast Tanks	lb.	.03	.03⅛
Cochin, barrels, N. Y	lb.	.05	Nom.
Manila, tanks, N. Y	lb.	.03¼	.03⅜
Tanks, Pacific;Coast	lb.	.03	.03⅛
Cod, Newfound, bbls	gal.	.25	Nom.
Copra, bulk, Coast	lb.	.0157	.0160
Corn, tanks, mills	lb.	.05⅛	.05¼
Bbls., N. Y	lb.	.06¾	Nom.
Cottonseed, crude, tanks, mill	lb.	.04¾	.05
PSY	lb.	—	.05¾
Degras, Amer., bbls	lb.	.02¾	.03½
English, bbls	lb.	.03¾	.04
German, bbls	lb.	.03¼	.03¾
Neutral, bbls	lb.	.07¾	.08½
Greases, choice white, bbls., N. Y	lb.	.03¾	.04¼
Yellow	lb.	.03½	.03⅝
House	lb.	.03½	.03⅝
Lard, prime, steam, tierces	lb.	.06⅜	.06½
Compound tierces	lb.	.07½	.07¾
Lard Oil,			
Extra, bbls	lb.	—	.08¼
Extra, No. 1, bbls	lb.	—	.08
No. 2, bbls	lb.	—	.07½
Linseed, raw, bbls., spot	lb.	.1030	.1070
Tanks, raw	lb.	—	.0970
Boiled, 5 bbls. lots	lb.	—	.1150
Menhaden, Crude, tanks, Balt	gal.	.15	Nom.
Oleo Oil, No. 1, bbls., N. Y	lb.	—	.06⅝
No. 2, bbls., N. Y	lb.	—	.06⅛
Olive, denatured, bbls., N. Y	gal.	.66	.68
Foots, bbls., N. Y	lb.	.05½	.05⅝
Palm	lb.	.03¾	.04¼
Palm Kernel, casks, denatured	lb.	.04½	Nom.
Peanut, domestic tanks	lb.	.05	Nom.
Red Oil, distilled, bbls	lb.	.07	.07⅝
Saponified, bbls	lb.	.07	.07⅝
Tanks	lb.	—	.06
Soya Bean, domestic tanks, N. Y	lb.	—	.07½
Stearic Acid			
Double pressed	lb.	.09½	.10
Triple pressed, bgs	lb.	.12¼	.12¾
Stearine, oleo, bbls	lb.	.05½	.05⅝
Tallow, special, f. o. b. plant	lb.	—	.03¾
City, ex. loose, f. o. b. plant	lb.	—	.03⅞
Tallow, oils, acidless, tanks, N. Y.	lb.	—	.07¼
Bbls., c/1, N. Y	lb.	—	.07¾
Whale, crude	lb.	.03½	.04
refined	lb.	.06¾	.07

No. 8Y—55 Gallons (Pat. Pend.)

Combining Large Capacity with Full Accessibility

FOR liquid, powder or paste the Benetco removable cover drum combines the accessibility of the smaller container with the shipping and storing capacity of the larger one. It is quickly sealed and easily opened—convenient to remove contents and clean—and staunchly built to give lasting service. Send for complete information—no obligation.

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76% Na_2O
Solid – Flake
Ground – Liquid

99% - 100%
SODA ASH
58% Na_2O
Light–Dense
Feather

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Branch Sales Offices
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BARBERTON, OHIO

Essential Oils

Almond, Bitter, U. S. P.	lb.	$2.25	$2.50
Bitter, F. F. P. A.	lb.	2.50	2.75
Sweet, cans	lb.	.47	.50
Anise, cans, U. S. P.	lb	.37	.39
Apricot, Kernel, cans	lb.	.20	.22
Bay, tins		1.30	1.70
Bergamot, coppers	lb.	1.15	1.40
Artificial	lb.	1.05	1.15
Birch Tar, rect., tins	lb.	.45	.50
Crude, tins	lb.	.12	.13
Bois de Rose, Brazilian	lb.	.95	1.10
Cayenne	lb.	2.10	2.15
Cade, cans	lb.	.24	.26
Cajuput, native, tins	lb.	.47	.50
Calamus, tins	lb.	2.75	3.25
Camphor, Sassy, drums	lb.	—	.10
White, drums	lb.	.11	.12
Cananga, native, tins	lb.	1.50	1.70
Rectified, tins	lb.	2.00	2.25
Caraway Seed	lb.	1.75	1.80
Cassia, Redistilled, U. S. P.	lb.	1.00	1.05
drums	lb.	—	.95
Cedar Leaf, tins	lb.	.62	.65
Cedar Wood, light, drums	lb.	.26	.30
Citronella, Java, drums	lb.	.46	.50
Citronella, Ceylon, drums	lb.	.36	.38
Cloves, U. S. P., cans	lb.	.80	.90
Eucalyptus, Austl., U. S. P., cans	lb.	.22	.23
Fennel, U. S. P., tins	lb.	.95	1.00
Geranium, African, cans	lb.	4.25	5.25
Bourbon, tins	lb.	4.25	4.75
Hemlock, tins	lb.	.60	.70
Lavender, U. S. P., tins	lb.	1.30	3.50
Spike, Spanish, cans	lb.	.48	.50
Lemon, Ital., U. S. P.		.80	1.10
Lemongrass, native, cans	lb.	.65	.70
Linaloe, Mex., cases	lb.	1.15	1.45
Neroli, Artificial	lb.	10.00	20.00
Nutmeg, U. S. P., tins	lb.	.95	1.05
Orange, Sweet, W. Ind., tins	lb.	1.10	1.25
Italian cop	lb.	1.00	1.30
Distilled	lb.	.40	.45
Origanum, cans, tech	lb.	.25	.50
Patchouli	lb.	3.00	3.50
Pennyroyal, dom.	lb.	1.70	1.80
Imported	lb.	1.20	1.30
Peppermint, nat., cases	lb.	2.75	2.95
Redis., U. S. P., cases	lb.	3.00	3.20
Petit Grain, S. A. tins	lb.	1.00	1.05
Pine Needle, Siberian	lb.	.70	.75
Rose, Natural	oz.	6.00	15.00
Artificial	oz.	2.00	2.75
Rosemary, U. S. P., tins	lb.	.32	.38
Tech., lb. tins	lb.	.22	.25
Sandalwood, E. Ind., U. S. P.	lb.	5.00	5.75
Sassafras, U. S. P.	lb.	.55	.90
Artificial	lb.	.17	.19
Spearmint, U. S. P.	lb.	1.30	1.35
Thyme, red, U. S. P.	lb.	.50	.70
White, U. S. P.	lb.	.60	.80
Vetivert, Bourbon	lb.	4.25	4.50
Java	lb.	16.00	20.00
Ylang Ylang, Bourbon	lb.	3.50	5.50

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.50	$2.25
Amyl Cinnamic Aldehyde	lb.	3.50	4.25
Anethol	lb.	1.00	1.10
Benzaldehyde, tech.	lb.	.60	.65
U. S. P.	lb.	1.10	1.30
Benzyl, Acetate	lb.	.55	.95
Alcohol	lb.	.70	1.15
Citral	lb.	1.75	2.40
Citronellal	lb.	2.25	2.50
Citronellol	lb.	2.25	3.00
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	3.10	3.30
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	1.05	1.20
Eucalyptol, U. S. P.	lb.	.55	.65
Eugenol, U. S. P.	lb.	2.00	2.50
Geraniol, Domestic	lb.	1.25	2.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	2.50	4.00
Heliotropin	lb.	1.75	2.00
Hydroxycitronellal	lb.	3.50	9.00
Indol, C. P.	oz.	2.00	2.50
Ionone	lb.	3.60	6.50
Iso-Eugenol	lb.	2.90	4.00
Linalool	lb.	1.65	2.00
Linalyl Acetate	lb.	2.10	3.50
Menthol	lb.	3.00	3.10
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.25
Paracresol	lb.	4.50	6.00
Salicylate, U. S. P.	lb.	.40	.45
Musk Ambrette	lb.	5.75	6.00
Ketone	lb.	5.50	6.50
Moskene	lb.	5.00	6.00
Xylene	lb.	2.00	2.50
Phenylacetaldehyde	lb.	4.00	6.50
Phenylacetic Acid, 1 lb., bot.	lb.	3.00	4.00
Phenylethyl Alcohol, 1 lb. bot.	lb.	4.25	4.50
Rhodinol	lb.	6.00	9.50
Safrol	lb.	.20	.23
Terpineol, C. P., 1,000 lb. drs.	lb.	.27	.29
Cans	lb.	.31	.32
Terpinyl Acetate, 25 lb. cans	lb.	.75	.90
Thymol, U. S. P.	lb.	1.25	1.35
Vanillin, U. S. P.	lb.	4.50	5.75
Yara Yara	lb.	1.30	2.00
Insect powder, bbls.	lb.	.28	.30
Concentrated Extract			
5 to 1	gal.	1.58	1.70
15 to 1	gal.	4.40	4.65
20 to 1	gal.	5.95	6.00
30 to 1	gal.	8.75	9.00
Gums—			
Arabic, Amb. Sts.	lb	.07	.07½
White, powdered	lb.	.09½	.13
Karaya, powdered No. 1	lb.	.09	.12
Tragacanth, Aleppo, No. 1	lb.	.75	.80
Sorts	lb.	.10	.11
Waxes—			
Bayberry, bgs.	lb.	.14	.15
Bees, white	lb.	.32	.35
African, bgs	lb.	.16½	.18
Refined, yel.	lb.	.22	.26
Candelilla, bgs.	lb.	.09½	.10
Carnauba, No. 1	lb.	.30	Nom.
No. 2, Yel.	lb.	.29	Nom.
No. 3, Chalky	lb.	.13	Nom.
Japan, cases	lb.	.06½	.07
Paraffin, ref. 125-130	lb.	.03⅜	.04¼

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SPARKLING white crystals that are always uniform . . . purity that holds to within a fraction of being 100% . . . a superior mechanical condition resulting in a product that flows freely . . . such is the uniform quality of Victor Tri-Sodium Phosphate.
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Cocoanut Oil	Sesame Oil	Caustic Potash
Palm Kernel Oil	Corn Oil	Carbonate Potash
Palm Oil	Peanut Oil	Meta Silicate
	Soap Colors	

Superfatting Neutralizing Agents. Write for Information and Samples.

The Future of Glycerin

(*From Page 23*)

glycerin refiner buys his crude on a firm contract on agreed prices over periods of time. He is obligated to accept the glycerin no matter what happens to the price. He naturally buys enough crude to meet his contractual obligations to customers using his refined product. These latter contracts are, however, entirely one-sided in favor of the buyer and a burden to the seller. They were due to a desire to be liberal to the consumer under conditions when it appeared necessary to offer him inducements so that he would buy. This liberality has been abused to such an extent that the average glycerin contract has merely become a buyer's option.

The trouble is that the buyer of refined glycerin does not have to take his monthly quota if he does not wish. Generally he does not if the price happens to go down. The sole redeeming feature is that the automatically cancelled part of the contract each month cannot be taken up the buyer in subsequent months in case the price should increase. This is little enough but whatever advantage it has for the seller of the refined glycerin is overcome by the practice of buyers in making a six or twelve month contract based on their largest seasonable month's consumption. Thus the buyer is covered for his busy season and is under no obligation at all to take the contracted quota at other times. The seller merely chops off the balance each month. But the refiner must be ready at all times to deliver the maximum tonnage. If the price of crude glycerin goes up, he must nevertheless hold his stocks to meet contractual obligations when the finished glycerin could be sold in other directions for higher prices in the open market. On the other hand, if the price goes down and buyers have no incentive to stock generously, the seller must accept the cancellation and take an inventory loss on the undelivered and yet mortgaged crude.

The refiner who is also a producer cannot afford to carry his large stock of low-priced crude glycerin during the full term of these contracts for reasons of storage as well as finance. On the other hand, the refiner who is not a producer cannot cover his crude glycerin requirements a year ahead, even though he wishes to speculate and store the material. Hence, in each instance the burden is solely with the refiner while the buyer of the refined glycerin is fully protected. The glycerin refiner is thus in the position of continually "holding the bag."

A remedy of this situation may come when the provisions of the "Industries Recovery Act" are applied to the glycerin industry. The present form of glycerin contract is definitely an "abuse of industry," which the President recently stated was to be corrected by the new law. The fair-minded buyer would not object to purchasing his glycerin on a firm contract, if this were to become the general practice in the industry. Contracts would be shorter, but they would be more equitable. Sellers would not be called upon to make twelve month contracts at the lowest figure of the year.

(*To be Continued in August*)

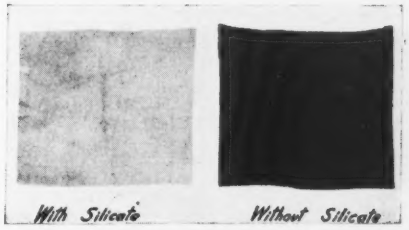
DOES YOUR SOAP

give dirt a leave of absence?

IT PAYS to have consumers say "Yes" to this question. They want all the dirt ***permanently*** removed in washing clothes.

When clean and dirty clothes are washed together in the same water, some of the dirt removed from one may be deposited on the other. Silicate solutions offer interference to dirt in its attempt to attach itself again to fabrics.

Experiments by P.Q. technicians have been made which measure the behavior of various silicates in preventing redeposition of dirt. If you wish a copy of this report, ask for Bulletin No. 49-A.



Pieces of cotton cloth after suspension (left) in solution of ferric oxide and dilute "N" Brand and (right) in solution of ferric oxide and water.

"N" Brand, used by soap makers for three quarters of a century, is one of the 33 grades of silicate of soda manufactured by us.

1831—OVER A CENTURY OF SERVICE—1933

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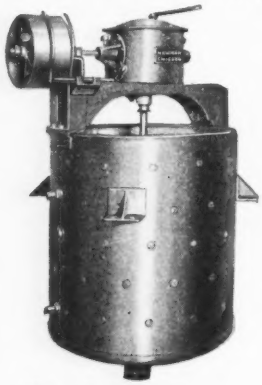
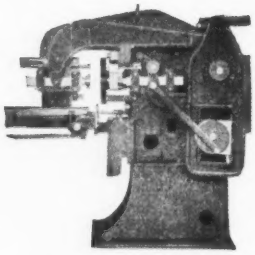
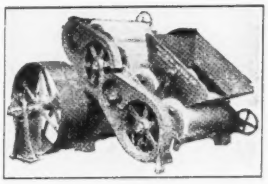
All used machinery sold is in absolutely first class, guaranteed working condition



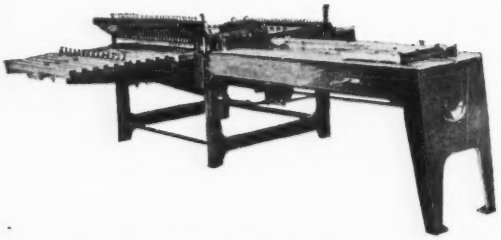
Brand New Newman All-Steel Soap Crutchers, All Sizes.



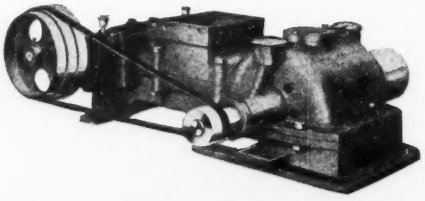
4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



H-A SOAP MILL
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.

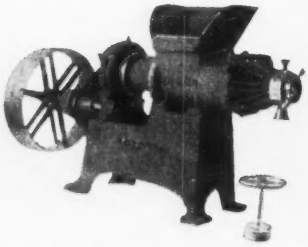


2—Automatic Power Soap Cutting Tables.

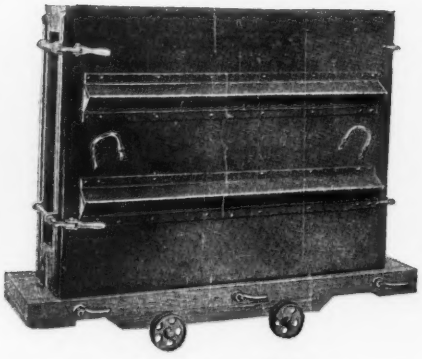


3—10A Soap Powder Mills.

DOPP CRUTCHERS
Sizes from 300 pounds to 3,000 pounds. All in best condition and guaranteed.



2—Jumbo 10″ Single Screw Plodders.



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PRODUCTION SECTION
A section of SOAP devoted to the technology of oils, fats, and soaps, published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries*.

Notes on Shaving Soaps

NO other soap has to meet such stringent specification as shaving soap. No soap requires such meticulous care in the selection of raw materials and attention to manufacturing details. The art of making a shaving soap is necessarily highly refined and involves particular consideration of the following points: correct composition of the stock, the use of fresh or refined fats and oils, the correct choice of alkali for saponification, the correct saponification process, and the further processing of the finished soap under proper conditions.

Fats and oils, suitable for making shaving soap, include (according to Dr. G. Knigge in *Seifiensieder Zeitung*, 1933, pages 13 to 15) tallow, lard, coconut oil, stearic acid, peanut oil, sesame oil and olive oil. Oils and fats not perfectly fresh must be refined. The fine, superficial appearance of a tallow should not deceive, because it may contain traces of connective tissue which later cause the soap to spoil. Off-grade gray or brown tallow, whose odor indicates rancidity must not be used under any conditions. Refining cannot make it suitable for shaving soap. The acid number of tallow should not exceed four, the color should be white or yellow. The tallow may be refined in an iron kettle, provided with a closed steam coil or heated directly by an open flame, the author states. Approximately two per cent of 35 per cent concentrated soda lye is added. Continued heating facilitates the formation of flakes. Part of the dirt rises to the surface as a scum and is skimmed off. After the flakes (containing major part of the impurities) have settled to the bottom, the clear tallow is run off into a lead-lined, wooden box, provided with an outlet valve at the bottom and an open, lead, steam coil. Sulfuric acid is added, the steam valve is opened and the tallow is allowed to mix with the acid. The steam valve is then closed and the tallow is permitted to settle. The sulfuric acid is removed through the bottom outlet and the last traces of acid washed out of the tallow by water. A little aluminum sulfate is raked into the tallow and the mixture allowed to remain undisturbed for some time. This rather laborious process gives a tallow, containing no dirt, free fatty acids, metallic soaps and albumens, and perfectly suitable for making a high grade shaving soap.

Lard must be fresh and pure white and edible lard is best used for this purpose. Technical lard must be carefully refined if edible lard is unavailable or too expensive. Coconut oil should not contain more than one per cent of free fatty acid, calculated as lauric acid. Stearin should be pure white, odorless, extra-prime quality. The other oils, used as stock in making the shaving soap, must be refined, and those containing considerable acid and of bad odor must not be used under any circumstances.

Shaving soaps are made by the cold, half-boiled and boiled processes; also as pure potash-stearin soaps. Soaps, made according to the first two processes, contain all the glycerin originally present in the stock. Such soaps cannot of course be used in making shaving powders. The soap may be made in powder form provided it has been saponified with considerable soda and little potash and thereafter thoroughly dried, but even then the powder will lump. Boiled shaving soap is made much like the best grade of toilet soap. A mixture of 75 parts of tallow and 25 parts of lard, or 70 parts of tallow, 10 parts of lard and 20 parts of coconut oil, is recommended.

All shaving soaps are made by saponification with potash lye or mixtures with other alkalies. Hence the soap contains an appreciable proportion of potash soap. Potash soaps lather well, are easily soluble and in neutral state have a mild action on the skin. They are more of course, expensive than soda soaps. A disadvantage is their hygroscopicity. The solid potash soap easily ab-

sorbs water and softens. The soap hydrates and swells; hence packages must be absolutely air-tight.

This difficulty can be overcome by proper selection of stock. Hard potash soaps are obtained with the addition of palm kernel oil or coconut oil, but these soaps are most hygroscopic. Vegetable and animal fats, rich in stearin as well as hydrogenated fats are better suited for this purpose. However, when they are used alone, the soap will not lather well, particularly in cold water. The lather is, however, firm and long-lasting. For these reasons boiled shaving soaps are made not as pure potash soaps but as potash-soda soaps. The quantity of caustic alkali required for saponification is calculated from the saponification number of the fat, and half of this quantity is made up of 40 degree Be. sodium hydroxide lye and the other half of 50 degrees Be. potash lye. Saponification is started with soda lye and finished with potash lye. The soap is then salted-out.

A difficulty arises due to the conversion of potash into soda during salting-out with salt. To avoid this conversion, potassium acetate has been recommended as a salting-out agent. The suggestion is, however, impractical on account of the high price of potassium acetate. Salting-out with strong potash lye has also been suggested, but the potash lye converts the soda soap into potash soap. Salting-out with the same mixed lye used in saponification gives better results. After the alkaline waste liquor is removed, the curd soap must be treated with hot water until it becomes liquid. The soap in this condition however contains far too much free alkali and must be neutralized. This is accomplished in a heated, mixing kettle, the correct quantity of stearic acid equivalent to the excess alkali being added. This process is therefore laborious and time-consuming.

If it is known beforehand how much potassium soap is converted into sodium soap in single salting-out, then it is much simpler to use sufficient proportions of sodium hydroxide and potassium hydroxide in saponification, so that the twice salted-out soap will be composed of the proper percentage of potash and soda soaps that will give best results.

Investigations were carried out to determine how much potash soap is converted into soda soap by salting-out with common salt. Soap, prepared with potash lye alone, was salted-out with common salt. Analysis of the ash of the soap showed 21.85 per cent of sodium chloride, 53.61 per cent of potassium carbonate and 22.24 per cent of sodium carbonate. About thirty per cent of potash was converted into soda. Another soap was prepared with a mixture containing 10.70 per cent of sodium hydroxide, 1.15 per cent of sodium carbonate, 24.99 per cent of potassium hydroxide and 1.96 per cent of potassium carbonate. If there were no conversion of potash into soda during salting-out, the ash from this soap would contain 65.63 per cent of potassium carbonate and 28.09 per cent of sodium carbonate. Analysis of the ash from soap salted-out once with common salt showed 42.74 per cent of potassium carbonate and 50.98 per cent of sodium carbonate. Hence about 34 per cent of the potash was converted into soda. Thus a single salting-out of the soap with common salt is responsible for the conversion of almost one-third of the potash soap into soda soap.

Due to the fact that potash soaps made from coconut oil and palm kernel oil tend to liquefy, while this phenomenon is much less evident with hard tallow soaps, the coconut oil and palm kernel oil should be saponified with soda and the tallow with potash. Boiled shaving soaps are generally made by charging the tallow and oil into the pan, melting the stock on water and gradually feeding dilute soda lye into the pan. After the caustic soda has been consumed, boiling is continued with caustic potash and the saponification of the tallow and oil is finished. The soap is then salted-out and the waste lye is removed the next morning. Then the coconut oil is saponified with the remainder of the potash lye. This ensures complete saponification of the coconut oil.

In order to make a shaving soap which can be ground to a powder, certain changes must be made in the process. The entire charge, inclusive of coconut oil, must be fed into the soap pan and saponification started with sodium hydroxide, as above. Since coconut oil is easily saponified, it is completely converted into soda soap. The potash lye then used saponifies the tallow. Better results are sometimes obtained by feeding only a part of the stock, including all the coconut oil but only a part of the tallow, into the soap kettle at the start of the process and saponifying with soda lye. After saponification is finished, the rest of the tallow is added and saponified with potash lye. The assumption is that all the coconut oil and lard is converted into soda soap by this process, while all the potash combines with the tallow to form potash soap. It is, however, always possible that changes in the soaps formed, as assumed above, can take place while the soap is being given a finish boil to complete saponification.

When such a soap, which must contain a high content of sodium hydroxide, is salted-out twice, glycerin is removed to such extent, that no difficulty at all is encountered in reducing it to a powder. The soap, allowed to cool in frames or cooling presses, is cut into bars, dried and then cut into chips or flakes. The soap flakes must be as fine as possible, so that they can be readily dried down to about 90 per cent fatty acid content. When a test sample of the soap flakes can be readily ground to a powder in a mortar, the soap is ready for the milling rolls, which are set very close together. Care must be taken in this process as high frictional heat may be produced due to the dryness of the soap and the close setting of the rolls. The addition of too much soap to the charging funnel may injure the machine under these conditions. The soap leaves the machine in powdered form. The powder should be passed once through a screen. Re-milling is sometimes required when the soap powder is not fine enough. A grinder will produce a fine powder from the dry soap flakes.

There is another method for producing a shaving soap powder free from lumps. Pure potash-stearin soap is used. The stearin is saponified in a jacketed soap kettle. A neutral or slightly acid soap is made, cooled in frames and cut into bars and then pulverized. There is no difficulty in producing a suitable shaving powder in this way, but the soap does not lather as freely as it should, particularly in cold water. To improve the soap, a good grade of boiled shaving soap, in powder form or pulverized, white curd soap may be added.

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Soap Boiling Control

The manufacture of curd soap is divided into two fundamental operations, namely saponification of the fat, and processing the soap paste of definite concentration with sufficient electrolyte, so that it is caused to coagulate. Thus, it changes from the one-phase state into the two-phase state, that is soap curd and niger, or into the three-phase state, that is soap curd, niger and waste lye. The necessity of allowing the niger to settle out so that it is properly separated from the curd soap is mainly responsible for the time consumed in the boiling process. The concentration of the soap paste and the proportion of electrolyte contained in it are the controlling factors in the settling process.

The results, obtained from a chemical analysis of the soap paste, that is determinations of fatty acids content and free electrolyte, are alone of no great value in affording a clear picture of the mechanism of the process of separation of the soap paste into two phases, that is curd soap and niger. The purely empirical methods, employed by the experienced though not technically-trained soap maker for determining the progress of various changes in the soap while in the kettles, are strictly subjective, that is the personal equation plays an important role and certainly affects the results. Furthermore, long years of soap boiling experience are required before the soap maker can tell the condition of the soap in the kettles by merely looking at it, feeling it or making other simple tests. In the last analysis, while this method may give correct results when used by a highly experienced soap maker, nevertheless it does not permit him to control the progress of the change in state of the soap paste in a quantitative manner.

A new method has been worked out, according to M. Saliopo in *Maslobojno Shirwoje Delo*, 1932, number 10, pages 19ff., which permits control, correction and fitting during the boiling of curd soap. The method depends on the fact that the electrolyte causes separation of the soap paste into two phases. This begins at a certain concentration.

Even though the soap solution (soap paste) appears as a homogeneous single phase under the microscope, the concentration of the soap paste is reduced due to the formation of the curd. This is detected quickly and easily when the paste is centrifuged. Due to the difference between the specific gravity of the paste and curd, the two layers are sharply separated. The soap paste is found in the lower layer and the soap curd in the upper layer.

The soap paste is poured into a hot test tube and this is placed in a centrifuge cup, which is filled with hot solution of calcium chloride at 102 to 105 degrees C. The centrifuge is operated for one minute at 2000 R.P.M. The calcium chloride solution is then removed and heated again to a temperature of 102 to 105 degrees C and the centrifuging is repeated for another minute.

The state of the soap paste in the test tube affords an idea of its condition in the soap pan at the moment the sample was taken. The process of separation of curd, niger and waste lye, which takes many hours in actual soap boiling practice, is accomplished in a few minutes by centrifuging the mass in the test tube.

This method affords a solution of the following problems:

1. Determination of the stability of the soap paste in the soap pan.
2. Yield of curd soap and niger.
3. Determination of the completeness of the separation of the curd and niger phases.
4. Determination of the relative speed of separation of curd and niger (duration of settling).
5. Determination of the binary and ternary points in carrying out the second process in boiling curd soap (curd soap and niger system, curd soap, niger and waste lye system).
6. Determination of the limiting concentration of the electrolyte when the soap paste is completely salted-out (curd soap and waste lye system).

The centrifuging process has also the following uses as an analytical method.

It may be used for determining:

1. The stability of the soap paste.
2. The stability of clay suspensions.
3. The relative speed of the settling of clay in filled soap and the factors which retard settling.
4. The most favorable concentration of soap in the soap paste and the most favorable concentration of electrolyte for most rapid settling of curd soap.
5. The concentration of the soap paste by volumetric methods by completely salting-out the same in the test tube.

The method is of scientific value and is a step removed from the usual empirical testing of the soap mass in the soap kettle during the saponification process. It helps to place the boiling of curd soap on a more logical basis, removing it from the pure rule-of-thumb class.

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Fats and oils are saponified by means of water-soluble sulfonic acids, which are extracted from petroleum and mineral oils with or without the addition of mineral acids. G. S. Petrov. Russian Patent No. 500, filed October 14, 1911.

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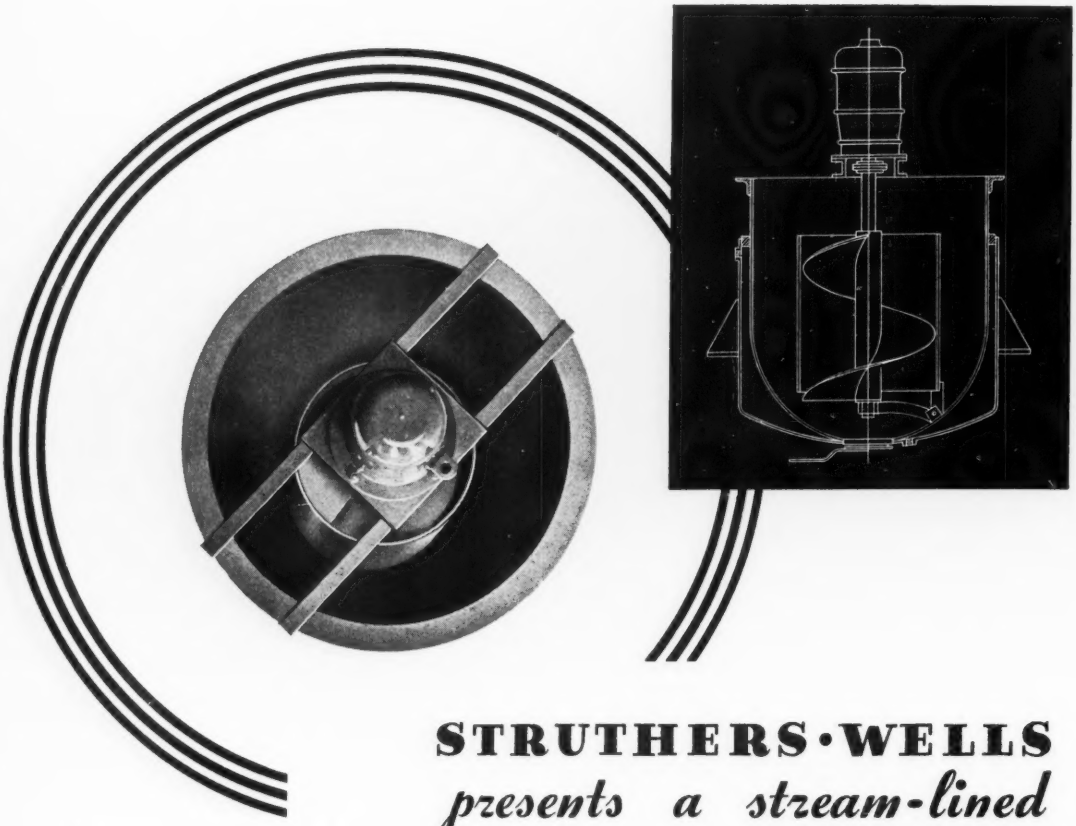

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Sulfur Dioxide Number in Analysis

Sulfur dioxide is generated when an oil is treated with concentrated sulfuric acid. The quantity of gas obtained is characteristic for each oil. The oil may be mixed with the sulfuric acid and air or better an inert gas passed through the mixture to remove the sulfur dioxide which is caught in a tenth normal solution of iodine, whereat the number of cubic centimeters of this solution reduced by the sulfur dioxide is called the sulfur dioxide number of the oil. This constant is sharply defined and hence can be used in detecting adulteration of oils and fats. The mixture of oil and sulfuric acid is advantageously diluted with benzene. It makes no difference if air or an inert gas is passed through the mixture. In carrying out the analysis 20 cc. of oil, 10 cc. of benzene are placed in an Erlenmeyer flask, which is connected with a vessel holding tenth normal iodine solution and a suction pump. The oil and benzene are thoroughly mixed together and then five cc. of sulfuric acid (sp.gr. 1.841) are added. The flask is then closed and connected with the bottle containing the iodine solution and the suction pump. The mixture is shaken thoroughly for a few minutes, the flask is wrapped in asbestos paper in order to reduce the heat loss as far as possible and then a slow current of air is drawn through the mixture by means of the air pump. When evolution of gas has stopped and the contents of the flask have been cooled down, an additional 10 cc. of benzene are added and after thorough shaking a current of air is again passed through the solution. Then the pump is stopped and the non-reduced tenth normal iodine solution is titrated with tenth normal solution of sodium thiosulfate. The following values have been obtained for different oils.

Oil	Thermo-number	Sulfur dioxide number
Olive oil	43.8	3.6
Sesame oil	72.0	49.8
Peanut oil	54.0	12.2
Castor oil	77.0	8.3
Linseed oil	124.0	164.7
Grapeseed oil	90.0	116.7

Factors were also determined for mixtures of olive oil with various proportions of peanut oil, linseed oil and grapeseed oil. The author suggests that the sulfur dioxide number may also be of value in detecting the adulteration of butter. A. Marzaron. *Olii e Grassi*, 1933. page 9ff.

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Analysis of mixtures of fats and waxes is best carried out by separate determinations of the water, glycerol, unsaponifiable matter containing paraffin, paraffin alone, insoluble saponifiables and soluble saponifiables contained in the sample. The acid number and the iodine number of the soluble saponifiables are also determined. H. D. Murray. *Journal of the Society of Chemical Industry*, volume 51, pages 393 to 394T.

Determination of Lather Values

Lather volume is defined as that volume which the lather from a definite quantity of solution acquires under definite conditions. Lathering coefficient is defined as the volume of a quantity of solution which is converted into lather under certain conditions. Specific lather volume is the quotient of the two aforementioned factors, that is lather volume divided by the lather coefficient. Lack of a correct method for measuring the stability of the lather is cited and a theory was developed based on mathematical principles and then tested by experiment. It is claimed that the stability of the volume of lather is measurable by means of a constant, called the "half-value time" or the half value constant which is exactly indirectly proportional to the first factor. A large number of experiments were carried out on solutions of curd soap, soap flakes to determine the validity of the theory. The experiments proved the theory tenable. The theory also agrees with conclusions reached in other investigations. Thus it substantiates the conclusion that the stability of the lather increases as the number of carbon atoms in the fatty acids, from which soap is formed, increases and becomes less as double bonds appear. Increase of concentration of soap in the solution generally increases the stability of the lather. The stability of the lather coefficient depends on external conditions, particularly on the manner in which the lather is produced, much less than the stability of the lather volume and hence is less characteristic of the soap solution. The few experiments that were made on mixtures allowed the conclusion to be drawn that the least stable component of the mixture dominates it and hence this affords a means of determining the purity of a preparation. E. L. Lederer. *Fettchemische Umschau*, volume 40, 1933, pages 69 to 77.

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Ammonia Oil Refining Process

Free fatty acids are refined according to the process of German Patent No. 525,946 by passing moist ammonia gas into the crushed oil seeds until the pressure becomes constant. Then again the benzine extract may be treated with ammonia, sodium hydroxide or calcium hydroxide. Anhydrous soaps are soluble in oil, while hydrated soaps are not. The "break" of the finely divided soap in the refining process with sodium hydroxide is caused by the absorption of water by the anhydrous precipitated soap. This coagulation is analagous to the separation into soap and lye in the salting-out process. When the temperature is too high and only a small proportion of water is present, the separated oil in the cooled state may gelatinize due to the soap that is dissolved in it. The causes of color in cottonseed oil were examined and found to be four in number. First there is the yellow tinge caused by the unsaturated fatty acids. Second, the brownish color caused by impurities; third, the color due to green chlorophyll or to brown iron-chlorophyll and finally the red color due to absorption of albumenoid impurities. The red color is

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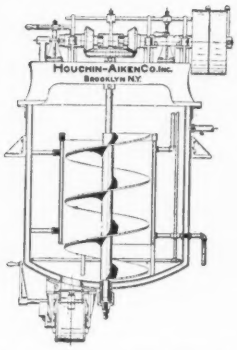

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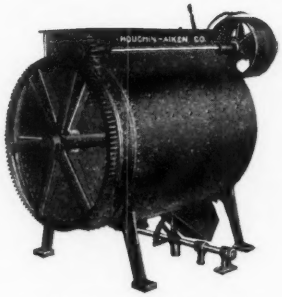

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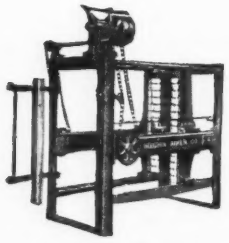

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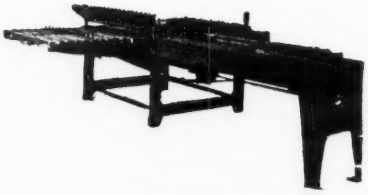

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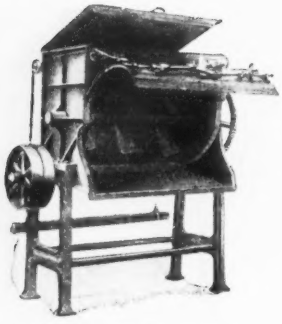

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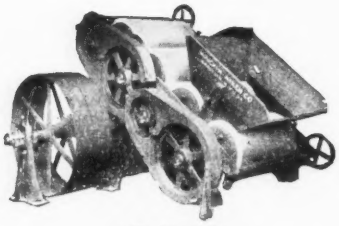

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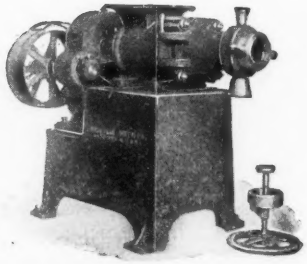

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partially removed from cottonseed oil by using an excess of sodium hydroxide during refining. This results in the color passing into the neutral oil held by the precipitated soap. Neutralization of the oil with an alcoholic solution of ammonia decreases oil losses and gives a light-colored oil, but distillation is required to recover the solvents. Neutralization with substances that do not dissolve oils yields edible oils light in color. J. Leimdoerfer. *Seifensieder Zeitung*, volume 60, 1933, pages 15 to 16, 34 to 35, 50 to 51 and 66 to 67.

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Cleansing Compound with Starch

A new type of cleansing compound is made from soap and starch mixed with pulverized sodium hydroxide. Ordinary cleansing preparations, containing sodium hydroxide, are subject to the disadvantageous action of air resulting in the conversion of the hydroxide into the carbonate. Soft soap has the disadvantage, when used alone, of sweating and when other substances are added considerable difficulty is encountered in making a proper mixture. Hygroscopic substances, added to soft soap, cause the formation of hard lumps. A mixed product, possessing high detergent and emulsifying action, is however obtained by mixing soft soap with starch and then adding the pulverized caustic alkali. Soft soap is defined in this connection as semi-solid, alkali soap. For example, seven parts of potato flour are placed in a mixing machine with 43 parts of soft soap and processed at room temperature. Then 50 parts of pulverized sodium hydroxide are added in portions. After mixing for a suitable time, which can be reduced by cooling the mixing bowl so that the operation is carried out at about 40 degrees C., the finished product is removed in the form of a loose powder. A medicinal product may be made by the further addition of sulfur or other medicament. Coloring matters and perfumes may also be added as desired. German Patent No. 568,703, filed March 24, 1931. Roehm & Haas A. G., Darmstadt, Germany.

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Higher Fatty Acids

The new theory of the structure of higher fatty acids, proposed by Raymond Vidal, is described. Vidal's work on the preparation of detergents, possessing all the qualities while avoiding all the defects of ordinary soaps, led him to conclude that the general formula, R.COOH, cannot always be assigned to the fatty acids. The new general formula is $R.C.(OH)_3$. The conclusion reached was that the fatty acids must exist in two forms, one, the normal or ordinary acid, with an aldehydo-alcoholic function or carboxylic group at the end of the chain, and two, the hydrolyzed or trihydroxy form, generally known as the ortho acid form in the lower representatives of the series. Evidence is given for the existence of the hydrolyzed form of the fatty acid, and addition products with hypochlorites and bisulfites are formed. New detergents have been manufactured on the basis of Vidal's experiments. One such product is a neutral water-soluble powder used in one per cent solution, strongly detergent even in cold solutions and harmless to wool and silk. The superiority claimed for these new products over soap is said to be due entirely to their neutrality, whereby no injury can be inflicted on the material to be washed or scoured, be it laundry, all kinds of textiles, vegetable or animal, and even hides and pelts.

Effect of varying conditions in the hydrogenation of fats and oils on the nature of the reaction product has been studied. The hydrogenation of methyl linoleate and ethyl linoleate showed the effect of temperature on the reaction. High temperatures, for example 180 degrees C, favors the formation of methyl oleate and low temperatures, for example 65 degrees C, the formation of methyl stearate. Pressure is not of any appreciable importance. It is indicated that linoleic acid does not react with stearic acid to form oleic acid. H. I. Waterman and C. van Vlodrop. Receuil des Travaux Chimiques, volume 52, pages 9 to 17, 1933.

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Fat Extraction

Fats are extracted from vegetable materials with an organic solvent, the vegetable matter being treated previously with an aqueous solution of a volatile alkali, such as ammonia or water-soluble amines, for example methylamine, or hydrazine. Mucilaginous and bitter ingredients are thus removed. Soya beans, corn germs, or flax or cotton seeds are treated below 180 degrees F with a small quantity of aqueous ammonia, and after agitation and standing, the aqueous liquor is withdrawn. Excess moisture and ammonia are removed from the beans by heating and the beans are flaked or powdered. An organic solvent such as dichloroethylene or trichloroethylene, carbon tetrachloride, benzene, petroleum naphtha, or an alcohol-ether mixture is then added to extract the fatty oil. The oil extract is decanted, filtered and part of the solvent is removed by distillation. The concentrated extract is treated with a filter aid, such as kieselguhr or decolorizing carbon, and after filtration the balance of the volatile solvent is distilled off. Final traces of solvent are removed by passing a current of dry steam, warm air or carbon dioxide through the oil. The extracted residue is dried by heating, preferably in vacuum, in a current of a gas and the residue is suitable for cattle feed. The process may be applied to the recovery of oil from press cakes. L. M. Brown. British Patent No. 361,029.

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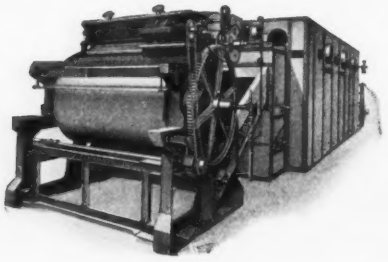
Glycerin is determined in soap spent lye by heating 100 gram sample of the lye, acidifying with hydrochloric acid and filtering. The filtrate is made slightly alkaline with sodium carbonate and evaporated. The glycerin is then extracted from the residue with absolute ethyl alcohol and heated to 90 to 95 degrees C. J. Davidsohn. *Seifensieder Zeitung*, volume 59, pages 490 to 491.



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ON PRODUCTS AND PROCESSES

Effects of temperature and quantity of bleaching earth used were studied in the decolorization of pilchard oil. Treatment of bentonite clay with acid in a simple process converts the clay into an efficient decolorizing material. Acid earths tend to cause appreciable hydrolysis. However in the experiments carried out the best temperature at which the earths were used was below 150 degrees C and the degree of hydrolysis at such temperature is negligible. Spectroscopic examination of the bleached oils showed little, if any, preferential adsorption of pigments by the various earths used. H. N. Brocklesby and L. P. Moore. *Contributions Canadian Biol. Fisheries*, volume 7, pages 413 to 424, 1933.

—o—

Palm oil was bleached with air at a temperature of 90 degrees C. in the presence of borates and resinates of cobalt, manganese and nickel in the proportion of 0.01 per cent. From 12 to 13 hours were required in bleaching palm oil in the presence of nickel compounds, which only 1.5 to 2.5 hours in the case of nickel compounds. A liquid and solid fraction can be obtained by filtering palm oil. Both fractions can be bleached with air in three hours at a temperature of 150 degrees C. and in two hours at a temperature of 100 degrees C. with cobalt borate. The rate of air bleaching is retarded when neutral oil is used. C. D. V. Georgi and Gunn Lay Teik. *Malayan Agricultural Journal*, volume 21, 1933, pages 23 to 32.

—o—

Solid salts of alkyl sulfuric esters, containing more than nine carbon atoms in the molecule, are prepared by neutralizing the free esters, without any intermediate treatment with water or alcohol, with solid, liquid or gaseous inorganic or organic bases, or their salts with weak acids in the absence of water or alcohol. Superior wetting agents and detergents are thus obtained. An example is the sulfonation of stearyl alcohol with chlorosulfonic acid in the presence of trochloroethylene and neutralization by passing in gaseous ammonia. H. T. Boehme A.G., Chemnitz, Germany. British Patent No. 358,612, filed August 22, 1929.

—o—

Alkali is detected in lard by adding ice water and two drops of an indicator to ten grams of the lard. Experiments were made with a number of indicators and it was found that paranitrophenol was best suited for the purpose. W. Otte, E. Kroeger and W. Luehr. *Zeitschrift f. Unterss. Lebensmittel*, volume 61, pages 118 to 126.

Castor oil is made miscible with mineral oil by partially splitting the glycerides contained in the oil, removing the glycerin thus formed and heating the residue to form new esters. For example, castor oil is heated with a mixture of sulfuric acid and a fat-splitting agent, until the mixture attains an acid value of 80 to 120. After settling, the lower layer containing sulfuric acid and glycerin is drawn off, and the upper layer containing fatty acids and glycerides is washed with water, and heated under reduced pressure to 482 degrees F. until esterification is complete. In the final stage the temperature may be raised to 575 degrees F. and, if necessary, a small quantity of raw castor oil added to remove the traces of free acid remaining. C. R. Del Turco, Paris, France. British Patent No. 385,021.

—o—

Oil is extracted from soya beans with the aid of various solvents, including chloroform, benzene, carbon tetrachloride, benzene (boiling point 65 to 90 degrees C. and 85 to 105 degrees C), ether, acetone, ethylene dichloride, and trichloroethylene. The yield, ordor, taste and color of the oil were determined in each case. Trichloroethylene and ethylene dichloride afforded excellent yields, but the odor and taste of the oil were objectionable, due to traces of the solvent left behind in it. S. Yushevich, S. Brilling and F. Antonemkov. *Maslo-boino Zhirovoe Delo*, 1932, numbers 4/5, pages 52 to 53.

—o—

The odor and color of fats are improved by washing them with milk or a liquid obtained from milk, for example a culture of lactic acid bacteria. An apparatus is described for carrying out this process. Richard Bendlin and Ottokar Urbasch. Austrian Patent No. 131,375, filed July 15, 1932.

—o—

Comparative tests were made on the press and centrifugal methods for treating oil-palm fruit. Efficiency of oil recovery was the same in both methods, about 87 to 88 per cent. The slightly higher loss of oil remaining in the pulp from the second method is compensated by the lower loss in purification of the crude oil. In larger units, the initial cost of the installation favors the centrifugal process. Tank space required for purifying the cleaner crude oil from the centrifugal process is about 33 per cent less than that needed in the press process. C. D. V. Georgi. *Malayan Agricultural Journal*, 1933, volume 21, pages 103 to 118.

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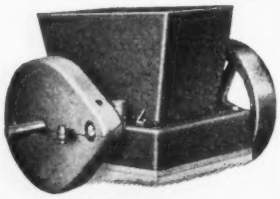

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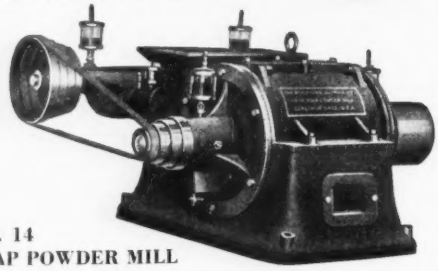

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Fatty Acids from Hydrocarbons

Oxidation products of hydrocarbons are used in the production of pure fatty acids. These oxidation products are first saponified. A part of the unsaponifiable matter precipitates spontaneously and is removed by filtering or decantation. The remainder of the unsaponifiable matter is dissolved or emulsified in the soap, and is extracted therefrom with the aid of high molecular weight hydrocarbons, such as paraffin. After extraction these same hydrocarbons are also subjected to oxidation to fatty acids. The high molecular weight hydrocarbons, suitable for oxidation, have a specific solvent action on the unsaponifiable matter and remove it rapidly and completely from the soap solution. The unsaponifiable constituents, which are present in the crude oxidation products, are different from the unchanged hydrocarbons in the starting material as regards their solubility in soap solutions, and hence are used as extracting agents. This is also true when no appreciable quantity of oxygen is contained in these unsaponifiable constituents. Inasmuch as the portion of the unsaponifiable matter which cannot be separated mechanically consists in largest part of non-oxidized or only partially-oxidized paraffins, it was evident that they could be separated from the saponifiable constituents of the oxidation products with the aid of the high molecular weight hydrocarbons.

The advantage of this process over those that employ low boiling hydrocarbons is that the solvent used does not have to be removed from the extracted product by evaporation. In this case the solvent or extracting medium remains in the extracted matter and is chemically processed to afford additional quantities of starting material. Either liquid soap solution or their dry residue, after being finely comminuted, can be used for extracting the saponified oxidation product. Extraction at high temperature, in the case of solutions at the boiling point, and application of the countercurrent flow principle are advantageous. The fatty acids can be and heated directly with steam. This takes place in a closed vessel provided with a condenser, since a part of the hydrocarbon is volatilized by the action of steam. The steam splits off the neutral glyceride and the unsaturated fatty acids are partially polmerized. The fatty acids, which are obtained in this manner, may be used in the place of oleic acid for various technical purposes, and also for the manufacture of hard soaps and soap powder. Grigori Petroff. German Patent No. 565,665, filed January 18, 1927.

—o—

Waxes are saponified four times as rapidly, that is usually within ten to twenty minutes, when propyl alcohol instead of ethyl alcohol is used as a solvent for the potassium hydroxide. This is due to the higher boiling point of propyl alcohol. Higher alcohols are less easy to purify and prone to oxidize and cause difficulty in titration owing to their only partial miscibility. P. de Ceuster and E. Verstraete. *Natuurwetensch. Tijds.*, 1933, volume 15, pages 62 to 63.

Sediment in Vegetable Oils

Temperature is an important factor in determining the sedimentation of solid substances in vegetable oils. Sedimentation is very slow at a temperature of zero degrees C and is complete only after about ten days have elapsed. Sedimentation is complete in about four days at a temperature of 15 to 20 degrees C. The deposit is dense, but about half the weight of the sediment obtained at zero degrees C. At a temperature of 70 degrees C, sedimentation requires only 24 hours and the deposit is only about half the weight of the sediment obtained at 15 to 20 degrees C. Hence the quantity of deposit increases with the duration of sedimentation. Dilution of vegetable oil with petroleum distillates increases the speed of sedimentation, but at the same time it changes the absolute quantity of deposit, this depending on the nature of the solvent and the degree of dilution.

The most convenient and most rapid method for determining the quantity of deposit consists in diluting the oil with petroleum ether in the proportion of 1:1. The oil is then permitted to decant for 4 hours into a 100cc. Lissenko bottle of special shape, wide at top and narrow at bottom. It allows a deposit to form in a denser and more uniform mass than in the ordinary measuring cylinder. The result obtained is very close that secured by allowing sedimentation to take place without the addition of a solvent over a period of 48 hours.

There is no relation between the volume and the weight of the deposit. Volume of the sediment is determined only in the case of edible oils, while the weight of the deposit is determined for technical oils. Thus 50 to 100 grams of oil are weighed, diluted with petroleum ether, allowed to settle, filtered through a Gouch filter, which is dried at 105 degrees C and weighed; residue is washed with petroleum ether to eliminate all trace of fat or oil and is then dried at 105 degrees C and weighed. L. Iolson and V. Ivanova. *Masloboino Jir. Delo*, 1932, No. 3, pages 31 to 35.

—o—

New Products From Fatty Acids

The chemistry of oleic acid is studied particularly as regards its behavior in hydrolysis. Structural formulæ show the re-arrangement of atoms in the molecule during hydrolysis. Conditions are set up defining practical application of the process. New products formed by the action of hypochlorites on the hydrolyzed fatty acids are studied. This also applies to the action of sulfites on the same acids. The products obtained are in powder form, easily soluble in cold water. They are used to treat cotton and linen before bleaching to accelerate this process; also in the washing of wool, degumming silk, etc. The products obtained by the action of hypochlorites are acid in reaction and pasty in form. They may be used as detergents, solvents and softeners. They are used in the textile industry, in the leather industry for the preservation of skins and hides, etc. Raymond Vidal. *La Revue des Produits Chimiques*, 1932, volume 35, pages 577 to 580.

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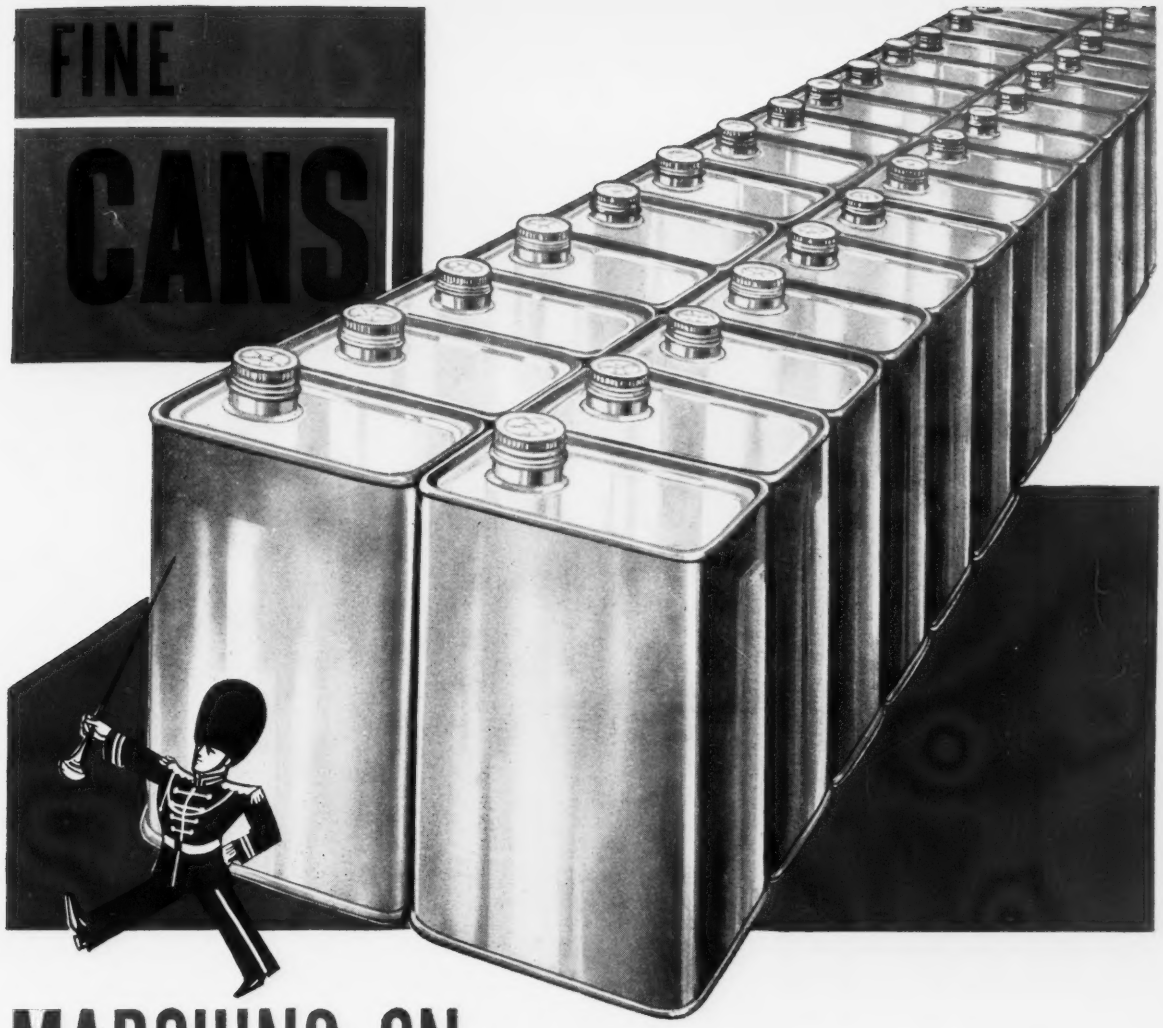

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Adjustable nozzle for spraying at any angle without tilting or upsetting sprayer.

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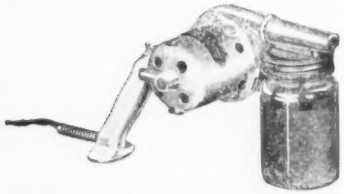

TORNADO Model 50 (at left) 1 pint glass jar. Model 51 has 1 quart glass jar. Both fan type units. Will spray 8 to 10 feet. 1/8 H.P. Universal motor. 20 feet of rubber cable.
TORNADO Model 53 (at right) Compressor type. 1 quart metal container with adjustable volume control. 1/8 H.P. Universal motor. 20 feet of rubber cable.

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Harry W. Cole, Secretary, Holbrook, Mass.

HIGHER PRICES MUST COME FIRST

THAT the prospects of the Industrial Recovery Act have set awhirl the heads of numerous manufacturers in the insecticide and disinfectant fields, is quite obvious to anyone who has discussed this revolutionary legislation in and about the industry. Some expect great things to come from it. Others are extremely pessimistic. Most everybody is befuddled when an attempt is made to determine how, when and where it will operate. Already the National Association of Insecticide and Disinfectant Manufacturers has a committee whose job is to draw up the preliminary draft of a code. The committee is made up of men of recognized capabilities and wide experience. Nevertheless, the opinion has been quite generally expressed in the trade that they are going to have their hands full.

Quite evidently, the primary object of the new law is to encourage industry to do business at a profit,—to force profits if necessary to enable the payment of more money in wages, both in higher wages and to more employes. To us, it seems, that the very first requisite of this is higher prices. Unless the manufacturer gets more for his goods, where is he going to get the money to pay higher wages? Quite obviously with disinfectants, insecticides, and associated sanitary products at the general price levels of today, money available for wages and profits is at low ebb. There is no doubt but that this is the primary problem of the moment,—higher prices. The numerous units of the industry,—mostly smaller ones with low overhead,—who are the greatest offenders with viciously low prices, must first of all be brought into line if we are to get even a start toward better conditions. The usual bunk and excuses for low prices have no place today. If prices are to be advanced, they have got to be *advanced*. Talk and hot air are not substitutes.

Although the operation of the new act seems to be impracticable in all of the ramifications planned for it, and although we have very serious doubts of its workability, we do see in it the opportunity for much good. We see it as an excuse for bringing strong pressure to bear to force up prices which have been hopelessly low for several years, to the general benefit of industry and those employed in industry. Give the manufacturer a decent profit and he will be only too glad to increase wages and take on new employes. To this end, the law should have some practical value. As to the adoption of a definite code to regulate the insecticide and disinfectant manufacturers and distributors, it is our suggestion, based on discussion with those close to Washington, that too much be not expected at an

(*Turn to Page* 101)

Studies on Pyrethrum Flowers

VI. Dalmatian Pyrethrum Cinerariaefolium

By C. B. GNADINGER* and C. S. CORL

McLaughlin Gormley King Company

IN 1929 the writers examined sixty samples of *Pyrethrum cinerariaefolium* from various sources (3). These flowers were from eight months to four years old when assayed. Their pyrethrin content does not represent that of freshly harvested flowers because, it has since been proved, a marked decomposition of pyrethrins occur in flowers stored for even one year (4). These earlier analyses indicated that Japanese pyrethrum had about twice the pyrethrin content of Dalmation flowers. This difference was partly due to the Dalmation practice of harvesting the flowers when very immature, in the mistaken opinion that the closed buds are more toxic than fully matured flowers, whereas Japanese flowers are much more mature when gathered. The inaccuracy of the Dalmatian belief has been proved by Gnadinger and Corl (2) and by Tattersfield (5).

The term "Dalmatian pyrethrum" has been applied to all *Pyrethrum cinerariaefolium* grown on the eastern shore of the Adriatic Sea. This region, embracing Croatia, Dalmatia, and Hercegovina, was formerly a part of the Austro-Hungarian Monarchy. The Kingdom of Yugoslavia was formed in 1918 from certain territories that separated from Austria-Hungary and united with the kindred Balkan States, Serbia and Montenegro. For a time the boundaries and names of the old districts Serbia, Montenegro, Bosnia, Hercegovina, Dalmatia, Croatia, Slovenia, Slavonia and Voivodina were preserved within the new Kingdom. In 1929, however, the Kingdom was re-divided into nine "Banovine" or Provinces, and the old subdivisions and names were discarded. The new Provinces are shown in Fig. I, together with the outline of the old Kingdom of Dalmatia.

. . . shows former boundary of Dalmatia.

TABLE I—PRODUCTION OF PYRETHRUM IN YUGOSLAVIA*

Year	Acres Cultivated	Pounds Produced
1920	995	335,000
1921	1,317	460,900
1922	1,581	839,300
1923	2,930	1,608,900
1924	4,804	1,902,300
1925	6,323	2,787,800
1926	6,298	2,712,700
1927	5,592	1,627,000
1928	4,752	1,333,600
1929	4,940	1,153,600
1930	6,160	2,443,400
1931	5,950	1,358,000
1932	5,548	1,173,400

*Information supplied by Office of Foreign Trade, Kingdom of Yugoslavia.

TABLE II—PRODUCTION OF PYRETHRUM IN YUGOSLAVIA BY DISTRICTS, 1931 CROP*

Province	District	Acres Cultivated	Pounds Produced	Per Cent of Total Production	Yield Per Acre (Pounds)
Primorska	Split	2,781	429,780	31.6	155
Primorska	Hvar	1,030	150,090	11.1	146
Primorska	Sibenik	674	185,580	13.7	276
Primorska	Supetar	304	189,760	13.9	624
Primorska	Makarska	208	55,540	4.1	267
Primorska	Korčula	27	13,220	1.0	489
Zetska	Dubrovnik	912	325,970	24.0	357
Zetska	Boka Kotorska	12	6,610	0.5	551
Zetska	Trebinje	2	1,410	.1	705
	Total	5,950	1,357,960	Av.	228

*Information supplied by Office for Foreign Trade, Kingdom of Yugoslavia.

Only the Provinces of Primorska and Zetska produce pyrethrum in commercially important quantities. The production of dried pyrethrum in Yugoslavia from 1920 to 1932 is given in Table I; the production for 1931 by Provinces and districts is shown in Table II.

Four grades of Dalmatian flowers have been generally recognized by the trade: closed, half-closed, mixed open and closed open. These grades, named in the order of decreasing price, are not sharply defined and, since they will probably be discarded within the next few years, a detailed description of them is omitted.

According to experts of the Yugoslav Government, the best flowers are produced in two districts of the Province of Primorska:

District of Split, including the municipalities of Drevnick and Šolta, on the islands of the same names, and the municipality of Trogir on the mainland.

District of Supetar, including the municipalities of Supetar, Milna and Nerežišče on the Island of Brač.

A second grade, said to be nearly as good as flowers from these districts, is obtained from the district of Dubrovnik, Province of Zetska. The flowers from the other producing districts are considered inferior. It

* Presented before the Division of Agricultural and Food Chemistry at the 85th meeting of the American Chemical Society, Washington, D. C., March 26-31, 1933.

TABLE III. ANALYSES OF 1931 CROP DALMATIAN PYRETHRUM EIGHT TO NINE MONTHS OLD

No.	Province and locality	Dalmatian classification: Grade	Quality	Pyrethrins %
	Primorska:			
6	Trogir	Half-closed	Best	0.63
19	Trogir	Closed	Best	0.71
14	Trogir	Mixed	Best	0.76
13	Trogir	Mixed	Best	0.79
17	Gornje selo—Šolta (isl)	Half-closed	Best	0.72
3	Komiža—Vis (isl.)	Closed	Best	0.64
2	Milna—Brač (isl.)	Half-closed	Best	0.34
1	Supetar—Brač	Half-closed	Best	0.64
18	Bobovišče—Brač	Closed	Best	0.70
4	Selca—Hvar (isl.)	Open	Slightly weak	0.58
5	Rudine—Starigrad—Hvar	Mixed	Slightly weak	0.72
21	Blato—Korčula (isl.)	Closed	Inferior	0.44
	Zetska:			
7	Rose	Half-closed	Inferior	0.70
12	Kutovo	Open	Inferior	0.39
11	Ston	Open	Inferior	0.42
10	Ston	Open	Inferior	0.44
9	Mljet (isl.)	Open	Inferior	0.45
8	Mljet	Open	Inferior	0.53
15	Konavlje	Open	Inferior	0.52
	Savska			
20	Vrbnik—Krk (isl.)	Mixed	Inferior	0.43

should be remembered that these opinions are based on the color, size and general appearance of the flowers and not on the pyrethrin content.

In 1931 the Kingdom of Yugoslavia undertook a complete reorganization of the Dalmatian pyrethrum industry. A comprehensive educational campaign to acquaint growers with proper methods of cultivation, harvesting, storing and marketing, was begun in 1932 through the initiative of Mr. Stjepan Čečuk, agricultural expert of the provincial administration at Split. The writers were invited by Dr. Juraj Tomičic, Manager of the Office for Foreign Trade, Ministry of Commerce and Industry, to co-operate in one phase of this work, having the ultimate object of increasing the pyrethrin content of the commercial Dalmatian product.

In February, 1932, a number of samples of 1931 crop flowers were submitted by the Yugoslav Government. Since Dalmatian flowers are harvested in May and June, these samples were from eight to nine months old when assayed (1). The analyses are presented in Table III.

The average pyrethrin content of the 20 samples from the 1931 crop (0.58%) was only slightly higher than the average for the 27 Dalmatian samples (0.45%) reported in 1929 (3). Moreover eight commercial lots of Japanese flowers, assayed when eight to nine months old, contained from 0.76 to 1.04% pyrethrins, averaging 0.87% pyrethrins. Either the Dalmatian flowers had contained a lower percentage of pyrethrins than the Japanese flowers when harvested, or the pyrethrins in the Dalmatian flowers had decomposed at a more rapid rate.

Since it was now known that storage played an important part in the deterioration of pyrethrum, it was decided to postpone further work until the 1932 crop should become available. Samples of the new crop were collected by a special expert of the Yugoslav Government and were forwarded, at intervals, from Beograd to Minneapolis, where they were promptly assayed. Some of these samples were from plants grown on the experimental plots of the Agriculture College at Split. These plants were originally obtained from various provinces as shown in Table IV. The anaylses of the samples from the Agricultural College were made within 60 days of the harvesting and are reported separately (Table IV) from the analyses of the commercial samples (Table V).

The analyses of samples S-1, S-2 and S-3 confirm the fact that the pyrethrin content increases as the flowers mature. The stems from these flowers contained about .10% pyrethrins which was expected (2), as was also the low pyrethrin content of sample S-19, containing 49.1% stems. Samples S-4, S-5, and S-6 had obviously decomposed in storage (4). Samples S-20, S-20a, S-20b, S-20c and S-20d showed again that the pyrethrins in

TABLE IV. ANALYSES OF PYRETHRUM GROWN AT THE AGRICULTURAL COLLEGE AT SPLIT, YUGOSLAVIA

No.	Description	Av. weight g.	Stems %	Moisture %	Pyrethrins %	Remarks
S- 1	Very immature "buttons"	.070	trace	8.9	0.44	Collected 5/17/32.
S- 2	Half open, from same plants as S-1	.122	trace	8.0	0.68	Collected 5/17/32.
S- 3	Open, from same plants as S-1	.144	trace	7.5	0.81	Collected 5/17/32.
S- 3a	Stems, from same plants as S-1	....	100.0	7.6	0.10	Collected 5/17/32.
S- 4	Half open, 1928 crop	.103	4.5	10.1	0.25	Color dark; immature.
S- 5	Open, 1928 crop	....	2.0	8.8	0.23	Color dark; mature; some parts of flowers missing.
S- 6	Closed, 1931 crop	.083	trace	8.9	0.29	Color good; very immature.
S-19	Flowers with stems, 1932 crop	.110	49.1	7.9	0.56	Color good; slightly immature.
S-20	Very mature, 1932 crop	.300	trace	7.2	0.88	Color fair.
S-20a	Ray florets from sample S-20	....	none	6.8	trace	
S-20b	Disk florets from sample S-20	....	none	6.9	trace	Contained considerable achenes which were removed.
S-20c	Achenes from sample S-20	....	none	8.6	1.00	Contained considerable chaff which was removed.
S-20d	Receptacles and scales from sample S-20	....	none	8.2	0.12	
	1932 crop; plants originally from:					
S- 7	Several provinces	.160	trace	7.5	0.98	Color good; mature.
S- 8	Trogir	.108	trace	9.4	0.84	Color good; mature.
S- 9	Mljet	.130	trace	10.5	1.06	Color good; slightly immature.
S-14	Mljet	.145	trace	7.4	0.84	Color good; slightly immature. Collected 11 days later than S-9.
S-10	Hvar	.142	trace	8.0	0.91	Color fair; slightly immature.
S-11	Hvar & Trogir	.129	trace	10.2	0.94	Color good; collected from diseased plants.
S-15	Hvar & Trogir	.142	trace	7.1	1.01	Color good; mature.
S-12	Dubrovnik	.183	trace	7.1	1.03	Color good; mature.
S-13	Slano	.130	trace	9.7	1.03	Color good; mature.

TABLE V. ANALYSES OF COMMERCIAL LOTS 1932 CROP DALMATIAN PYRETHRUM

No.	Province and locality	Dalmatian grade	Age when assayed months	Av. weight g.	Stems %	Moisture %	Pyrethrins %	Remarks*
	Primorska							
17	Marina near Trogir	....	2	0.125	trace	9.0	0.83	Immature, "shade dried."
34	Marina near Trogir	....	2½	0.117	0.8	9.9	0.82	Immature.
33	Trogir	....	2½	0.140	0.3	7.6	0.98	Slightly immature.
46	Marina near Trogir	f.a.q.†	3½	0.098	trace	8.8	0.91	Slightly immature.
48	Seget near Trogir	f.a.q.	3½	0.093	trace	9.2	0.83	Mature but very small.
47	Seget near Trogir	f.a.q.	3½	0.127	trace	8.2	0.94	Mature.
49	Trogir	½ closed	3½	0.122	trace	7.6	0.83	Slightly immature.
50	Trogir	¾ open	3½	0.130	trace	8.8	0.86	Slightly immature.
51	Trogir	mixed	3½	0.105	0.3	8.2	0.91	Very slightly immature.
71	Labin near Trogir	....	4½	0.114	0.3	7.0	0.70	Open; "primitively grown."
18	Milna, Brač (island)	....	2	0.135	trace	7.7	0.88	Slightly immature; "shade dried."
16	Supetar, Brač	....	2	0.192	trace	8.3	1.01	Mature; "shade dried."
27	Supetar, Brač	....	2½	0.170	0.4	8.3	0.93	Mature.
28	Nerežišče, Brač	....	2½	0.185	trace	7.7	0.96	Mature.
29	Milna, Brač	....	2½	0.195	trace	6.7	1.02	Mature; "sun dried."
30	Milna, Brač	....	2½	0.185	trace	6.7	0.96	Mature; "shade dried and pressed."
31	Milna, Brač	....	2½	0.195	trace	8.1	0.98	Mature; "shade dried."
42	Pučišče, Brač	f.a.q.	3½	0.082	trace	7.5	0.70	Immature, closed.
41	Bol, Brač	mixed	3½	0.123	trace	8.9	0.82	Slightly immature.
70	Sutivan, Brač	....	4½	0.096	0.7	6.0	0.67	Mixed open and closed; "best quality."
54	Vis, Vis (island)	f.a.q.	3½	0.128	trace	7.5	0.90	Half closed.
66	Vis, Vis	¾ open	4½	0.108	1.8	5.8	0.57	Small; immature; "medium quality."
67	Vis, Vis	....	4½	0.102	1.6	7.1	0.60	Small; immature; "superior quality."
63	Komiža, Vis	mixed	4½	0.135	0.8	7.5	0.80	Mixed open and closed; "superior quality."
64	Pošpilje, Vis	....	4½	0.125	0.3	7.3	0.83	Half closed; "good quality."
65	Oključina, Vis	....	4½	0.122	0.5	7.0	0.94	Half closed; "very good quality."
61	Vrboska, Hvar (island)	....	4½	0.125	0.6	9.2	0.51	Open; "medium quality."
62	Vrboska, Hvar	open	4½	0.154	0.3	8.7	0.67	Open; "inferior quality."
60	Bogomlje, Hvar	open	4½	0.141	0.4	8.3	0.70	Open; "poor quality."
58	Hvar, Hvar	open	4½	0.125	1.1	5.9	0.79	Open; "medium quality."
59	Hvar, Hvar	open	4½	0.164	trace	7.5	1.03	Open; "poor quality."
39	Korčula, Korčula (island)	½ closed	3½	0.085	0.8	8.0	0.77	Very immature.
40	Korčula, Korčula	closed	3½	0.090	0.5	9.2	0.80	Very immature.
38	Korčula, Korčula	open	3½	0.112	trace	11.2	0.98	Slightly immature.
77	Korčula, Korčula	....	4½	0.089	2.6	8.7	0.74	Half-closed; "medium quality, wild grown."
32	Šolta, Šolta (island)	....	2½	0.140	0.8	8.0	0.93	Slightly immature.
44	Šolta, Šolta	f.a.q.	3½	0.093	trace	8.0	0.90	Slightly immature.
53	Maslinica, Šolta	....	3½	0.112	0.3	7.0	0.95	Slightly immature.
26	Gradac, near Makarska	....	2½	0.157	0.3	8.1	0.93	Slightly immature.
24	Tučepi, near Makarska	....	2½	0.200	0.8	8.5	0.94	Mature.
25	Vojici, near Makarska	....	2½	0.195	0.7	7.0	0.94	Mature.
43	Omiš, near Split	¾ open	3½	0.122	trace	7.9	0.70	Immature.
72	Šestanovac, near Split	....	4½	0.123	0.4	7.4	0.61	Mature; "wild grown."
45	Drvenik, Drvenik (island)	f.a.q.	3½	0.147	trace	7.4	1.00	Mature.
35	Primošten	....	2½	0.142	0.3	11.9	0.96	Slightly immature.
68	Sali-Preko, near Zara	closed	4½	0.071	3.8	6.3	0.88	Closed.
69	Šibenik	mixed	4½	0.094	1.1	7.5	0.65	Mixed; "inferior quality."
73	Metković	....	4½	0.122	0.3	6.7	0.56	Open; "medium quality."
	Zetska:							
37	Trebinje	open	3½	0.162	trace	8.9	0.94	Mature.
36	Trebinje	....	3½	0.122	trace	11.0	0.99	Mature, but small.
76	Rasovac, near Trebinje	mixed	4½	0.151	0.3	7.3	1.03	Open; "good quality, wild grown."
75	Konavlje, near Dubrovnik	....	4½	0.141	0.8	7.6	0.61	Open; "very poor quality."
74	Aleksic, near Dubrovnik	....	4½	0.179	trace	7.5	0.83	Open; "very poor quality."
21	Neum	....	2½	0.130	0.9	8.6	0.88	Slightly immature.
22	Mljet (island)	....	2½	0.195	0.4	9.0	0.73	Mature.
23	Ston	....	2½	0.120	0.4	7.7	0.81	Immature.
56	Ston	....	3½	0.164	1.3	9.8	0.09	"Said to be P. caucasicum not P. cinerariaefolium."
	Savska:							
55	Aleksandrova, Krk (island)	f.a.q.	3½	0.114	0.4	9.0	0.94	Half-closed.
57	Krk, Krk	½ closed	4½	0.110	1.8	8.3	0.89	Half-closed.

* Phrases in quotation marks are Dalmatian comments.
† Fair average quality of the season.

mature flowers occur chiefly in the achenes (2). The pyrethrin content of samples S-7 to S-15 was much greater than previously found in Dalmation pyrethrum, averaging 0.96% or about the same as new crop Japanese pyrethrum.

The most important factors affecting the pyrethrin content of the commercial samples (Table V) are: the degree of maturity of the flowers, the length of time between harvesting and assaying and the locality where grown.

The average weight per flower-head varied from 0.071 to 0.200 g. The degree of maturity, however, cannot always be judged from the average weight, because some lots of small, mature flowers have a lower average weight than large half-closed flowers. Nevertheless a correlation between the average weight and the pyrethrin content is indicated, in Table VI. The average age of Group A is greater than that of Group B which probably accounts for the considerable difference in the pyrethrin content of these groups, which have nearly the same average weight.

TABLE VI—RELATION OF PYRETHRIN CONTENT TO AVERAGE WEIGHT OF COMMERCIAL SAMPLES

Group	Samples	Average Age Mos.	Pyrethrin Content Min. %	Pyrethrin Content Max. %	Pyrethrin Content Av. %	Av. Weight Per Flower Head g.
A	17	4.20	0.51	0.79	0.66	0.119
B	15	3.43	0.80	0.89	0.84	0.120
C	21	3.07	0.90	0.98	0.94	0.143
D	5	3.40	1.00	1.03	1.02	0.170

If the commercial samples are grouped according to their maturity, determined by physical examination (Table VII), the relation between degree of maturity, average weight and pyrethrin content is shown. The average age of the three groups is substantially the same.

TABLE VII—RELATION OF MATURITY, AVERAGE WEIGHT AND PYRETHRIN CONTENT

Classification	No. of Samples	Av. Age Mos.	Av. Weight Per Head g.	Av. Pyrethrin Content %
Immature	10	3.45	0.102	.075
Slightly immature	23	3.50	0.120	0.87
Fully mature, overbloom	25	3.56	0.155	0.85

Tattersfield (5) has shown that there is a marked increase in weight per flower head, after pollination which is not accompanied by further synthesis of pyrethrins. The percentage of pyrethrins in the flowers therefore

drops after pollination, but the weight of pyrethrins per flower head remains unchanged. In Table VII, the average weight of the mature flowers is much greater than that of the slightly immature flowers, and the percentage of pyrethrins is slightly less.

The fact that all of the samples reported in Table V were not collected at the same stage of maturity nor assayed when the same age makes it difficult to form definite conclusions regarding the merits of the different producing districts. The analyses are summarized by districts in Table VIII.

TABLE VIII—ANALYSES OF COMMERCIAL SAMPLES SUMMARIZED BY PROVINCES

Province and Locality	Samples	Av. Age Mos.	Av. Weight g.	Av. Pyrethrin Content %
Primorska:				
Makarska	3	2.50	0.184	0.94
Solta	3	3.26	0.115	0.93
Brač	10	2.80	0.156	0.89
Trogir	10	3.25	0.117	0.86
Korčula	4	3.75	0.094	0.82
Vis	6	4.33	0.120	0.77
Hvar	5	4.50	0.142	0.74
Split	2	4.00	0.123	0.66
Miscellaneous	5	3.90	0.115	0.81
Av. for Primorska	48	3.30	0.130	0.83
Zetska:				
Trebinje	3	3.83	0.145	0.99
Dubrovnik	2	4.50	0.160	0.77
Miscellaneous	3	2.50	0.148	0.81
Av. for Zetska	8	3.50	0.150	0.85
Savska:				
Krk	2	4.00	0.112	0.92
Av. for all Provinces	58	3.45	0.132	0.82

The average pyrethrin content of the samples from Makarska, Šolta, Brač, Trogir, Trebinje, and Krk is quite satisfactory. Reference to Table VI shows that 26 of the 58 commercial lots contained 0.90% or more of pyrethrins.

Summary

Twenty samples of 1931 crop Dalmation pyrethrum had an average pyrethrin content of 0.58 per cent, eight to nine months after harvesting. This was considerably less than the pyrethrin content of eight samples of 1931 Japanese pyrethrum of the same age. Nine samples of pyrethrum from experimental plots of the Agricultural College at Split, averaged 0.96 per cent pyrethrins or about the same as the best Japanese flowers. Fifty-eight samples of 1932 crop commercial Dalmatian flowers contained an average of 0.82 per cent pyrethrins; twenty-six of these samples contained 0.90 per cent or more of pyrethrins, comparing favorably with the 1932 Japanese crop.

It has been clearly shown that certain provinces of Yugaslavia can produce pyrethrum equal to the best Japanese product. On the other hand, much of the Dalmatian crop has been of low pyrethrin content because of improper methods of cultivation, harvesting, storage, packing and marketing. The elimination of the present archaic system of grading, by establishing a single, standard export grade, will alone greatly improve the average quality. Further study of storage conditions will probably be necessary with particular attention to the relation between maturity and decomposition in storage. Government supervision of grading and marketing, including certification of pyrethrin content, will do much to restore confidence in the quality of Dalmation pyrethrum.

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Fly Spray Base

New bases for fly sprays are being proposed constantly to replace kerosene. While it is doubtful that any new product can have all the good qualities of kerosene and at the same time be as economical, nevertheless it is interesting to record the progress that is being made in this field, even though the proposed substances do not attain commercial importance. It has been suggested in the past that hydrogenated petroleum or petroleum distillates be used for this purpose. The newest suggestion is to employ partially or entirely hydrogenated tar oil or synthetic oils or their distillates. It is claimed that the fly sprays, made with these oils, are free from the usual lasting odor of the ordinary fly spray. The new bases evaporate rapidly and do not stain articles in contact with them. Furthermore, the insecticidal activity of the pyrethrum or the like, dissolved in the hydrogenated tar oil, etc., is not impaired or retarded.

Thus a highly active fly spray is made by dissolving 15 per cent of phenyl salicylate in 85 per cent of a hydrogenated lignite tar oil of sp. gr. 0.789 and boiling point range 158 to 280 degrees C. This product is made by hydrogenating a strongly unsaturated lignite tar oil at 390 degrees C. with hydrogen under 200 atmospheres pressure in the presence of tungstic sulfide used as catalyst. In another example twelve per cent of pyrethrum flowers are extracted in cold for 24 hours with hydrogenated solvent benzene. Then the flowers are filtered off and 3.5 per cent of 5-chloro-2-oxybenzoic acid amyl ester is added as well as two per cent of isoborneol acetate to perfume the spray.—I. G. Farbenindustrie A.G., Frankfurt-am-Main, Germany. German Patent No. 556,597.

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"Fumigation of Industrial and Domestic Structures by means of Cyanegg" is the title of a booklet issued by the R. & H. chemicals department of E. I. du Pont de Nemours & Co., Wilmington. Fumigation of dairies and cheese factories is given special attention.

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Zoro Co., Chicago, has recently introduced "Zorator," a toilet bowl deodorant and disinfectant cake which can be conveniently clipped to the rim of the toilet bowl by a wire holder. It is available in three colors and odors, and retails at ten cents.

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"It's the Odor that Sells the Product"

The Practical Value of Disinfectants in Hospitals and in the Household*

By George F. Reddish
Lambert Pharmacal Co.

THE practical use of germicides, both disinfectants and antiseptics, has been responsible to a very large extent for the great strides made in preventive medicine. Before germicides came into practical use, the prevalence of disease due to unsanitary conditions was notorious. Post-operates infections were then an accepted fact throughout the world. Germ-laden filth in public buildings and households was a real danger to the public health of all people. Water, milk, food, etc., contained disease-producing bacteria in abundance. Disease was considered an act of God, or the devil, and mortality rates were extremely high. As a consequence the life-expectancy in those days was quite low.

Into this picture of filth and disease, Louis Pasteur and Lord Lister appeared with a formula by means of which relief from these conditions was made possible. Although the germ theory of disease had been discussed for decades before Pasteur, it remained for him to offer final conclusive proof. Koch, his German contemporary, shares with Pasteur in this honor. Lord Lister, in England, took up the work of Pasteur and Koch, appreciating their significance and importance, and was among the first to make practical application of their discoveries.

Lister, even before Pasteur had finished his work on fermentation, prophesied that the solution of the mystery of fermentation would bring with it the solution of the causation of disease. He was ready to make application of Pasteur's discoveries and lost no time in doing so. Post-operative infection, the cause of which had been a mystery for so many years, now seemed to Lister to be due to micro-organisms of some sort. He did not stop to find out just which kinds of bacteria were responsible for these infections. Instead he directed his efforts towards means of killing them. For this purpose carbolic acid was used.

Surgical instruments, dressings, operating room fixtures and even the air of the operation room was disinfected with strong solutions of carbolic acid. The operative area was also disinfected with the same solution, usually somewhat less concentrated, and even during the operation these solutions were freely used. This constituted what is known as Listers system of antiseptic surgery. Following the use of these procedures, post-operative infections were almost completely prevented until now such infections are almost a thing of the past.

During the years immediately following the epochal discoveries of Pasteur, Koch and Lister, many diseases were shown to be caused by specific micro-organisms. As the medical profession accepted these discoveries, they also appreciated the importance of germicides in preventing and controlling these infections. Disinfectants and antiseptics came into common use in all hospitals; as a result the dissemination of disease was checked to a remarkable degree. As a matter of fact, improvement in the public health and advances in the field of preventive medicine correlated closely with the knowledge and use of germicides. This is an important fact to keep in mind when we consider the practical value of disinfectants and disinfection. We must, therefore, admit that the use of disinfectants has played a very important part in bringing us to our present state of public well-being as regards health and the control of disease.

The importance of germicides in preventing the spread of disease and infections generally is no longer a matter of argument. This is a known fact and is admitted by the medical and public health professions generally. They have used germicides for this purpose for the past sixty years, and they still consider them as their chief weapon of defense against infection and the spread of disease. The question might be asked: "If this is the case, why argue the question?" For most of us there is no argument. The case for disinfectants is proven beyond dispute. However, there has been a tendency within recent years to consider simple cleanliness as a substitute for the killing of germs. Others believe that soap solutions are sufficiently germicidal to be used in place of disinfectants. Those of us who are bacteriologists know that this is not true.

Why is it, then, that the idea that soap is a disinfectant has become so prevalent at this time. The explanation concerns a technical point in a bacteriological test. In a study which purported to show that soap solutions are highly germicidal, the test organisms were grown in dextrose broth. As these organisms grew, they split the dextrose to form acid and then they remained exposed to this acid in the culture medium for hours before they were used as a test culture. During this time these bacteria were greatly weakened by the acid formed in this culture medium. I have checked over this work myself and found that while one of the organisms when grown under normal conditions would not be killed by 1-110 phenol in 5 minutes, when grown in dextrose broth a dilution of 1-300 phenol would kill it. For a soap solution to kill such a weakened organism means nothing. Almost anything would kill an organism that was already three-fourths dead before the test even started.

I have made large numbers of tests on various kinds of soap solutions and found that they are not good germicides. It is necessary to *add* a powerful germicide to soap in order to obtain a germicidal soap. The use of ordinary soap solutions in place of disinfectants in not only unwarranted, but dangerous, in that it leaves a false sense of security in the minds of the user. Soap solutions as such will not disinfect. They cannot be used in place of disinfectants for killing virulent, resistant disease germs. This does not apply to antiseptic soaps especially prepared for use on the human and animal body, such as for the disinfection of surgeons' hands, etc. These statements apply only to ordinary soaps which contain no added germicidal ingredient.

We can build a bridge across a river that will just support a bicycle, but will not be strong enough to hold up a full-size automobile, or truck. It can be used as a bridge for bicycles, but it is not suitable for automobiles. It is not a good highway bridge, and we would certainly not try to use it as such. The weakened test organisms referred to above are analogous to the bicycle and the full-size automobile or truck to normal, vigorous disease-producing bacteria. A bridge that would just support the bicycle would be analogous to soap solutions, while a bridge that will safely support a truck is analogous to reliable disinfectants. A highway bridge must be strong enough to withstand regular highway traffic; a disinfectant must be germicidal enough to kill normal, virulent, resistant disease germs. There is no compromise with safety.

In a discussion of the value of disinfectants, soap solutions should not even be mentioned. Because of the prevalence of certain misinformation on the subject, we are forced to do so at this time. No further consideration will be given it here except to say that soap is not a disinfectant and the use of soap solutions is not disinfection.

When it is desired to kill disease germs, no half-way measures will suffice. A germicide must be used. Disinfectants kill disease germs and are used on inanimate objects to kill such germs and prevent the spread of communicable diseases. It naturally follows that disease germs must be present in order that disinfection be justified.

Although germs are everywhere, in the air, on floors, furniture, etc., not all of them cause disease. In fact, only a small per cent of the known bacterial species are capable of producing diseases in man and other animals. The indiscriminate use of disinfectants is not recommended. For example, we do not paint the roof and outside of a hospital, home or barn with disinfectants, although we know that some germs are present there. Even inside the hospital disinfectants are not used in every room every day.

Disinfectants should be used in hospitals and homes after contagious and infectious diseases. When no infectious disease germs are present it is not necessary to disinfect. For example, it is not necessary to disinfect a room which has been occupied by a patient with a fractured leg, provided the patient is free from disease, for the simple reason that no infectious disease germs were left in the room by the patient. However, during the course of an infectious disease, disinfectants are used to kill the germs in infectious discharges from the diseased individuals and also to disinfect utensils handled by them. The room itself should be disinfected afted it has been vacated. For this purpose a reliable germicide must be used. Soap and water will

* This and the following papers were delivered before the 19th Mid-Year Meeting, Nat'l. Assn. of Insecticide & Disinfectant Mfrs., Chicago, June, 1933.

not kill these disease germs and must not be used in place of a reliable disinfectant.

In the disinfection of hospital operating rooms the same rule holds as in the disinfection of patients' rooms. The floor, tables, utensils, etc., are thoroughly disinfected following operations on infectious and suppurative cases. Since operation on such cases results in some degree of contamination of the floor, tables, etc., with infectious micro-organisms, it is always necessary to disinfect afterwards. Following an operation in which infection or suppuration is absent, disinfection of the operating room afterwards is not necessary. Neither is it always necessary to disinfect the room before operation.

Our modern surgical technique is partly responsible for the fact that disinfection of operating rooms is not now more generally employed. The surgical knows how to take care of infectious material in such a way as to prevent mass contamination of operating room floors, etc. Contamination of the operative field is prevented by aseptic and antiseptic procedures. However, disinfection of operating rooms and fixtures following suppurative cases is necessary and is still the common practice today.

There are many other uses for disinfectants in the modern hospital. Certain instruments which cannot be sterilized by heat are treated with disinfectants, both before and after use. Carbolic acid is used by the anesthetists to disinfect catheters and airways. Disinfectants are used for cleaning bed pans and as a solution for the pan brush, and also for disinfecting the stools of patients with typhoid fever and other intestinal diseases. Other infectious discharges which cannot be sterilized by heat are treated with disinfectants.

There are many incidental uses of disinfectants in hospitals which used hardly be mentioned here. A good disinfectant solution is always available for use at all times. In order to keep disease germs under control, they must be destroyed as soon as possible after they leave the disease individual. This is called concurrent disinfection and is more valuable than terminal disinfection in preventing the spread of disease.

While disinfectants are widely used in hospitals, especially in isolation hospitals for contagious diseases, they find a place also in households. Again it must be remembered that disinfectants are used to kill disease germs on inanimate objects. Therefore, they will be used when disease germs are present, such as when infectious and contagious diseases are present. Under such circumstances they will be used in the same way and for the same purposes as in patients' rooms in hospitals. Here again concurrent disinfection is advisable, or rather, necessary. While we have isolation hospitals in cities for contagious diseases, and while in smaller communities such cases are accepted in general hospitals, the majority of these patients remain at home. It will be necessary to disinfect the infectious discharge from such patients, and also the utensils with which the patient comes in contact. Boiling water is used for sterilizing dishes and silverware used by the patient, but other utensils contaminated by the patient are treated with a disinfectant.

The proper use of disinfectants in hospitals and homes has been, and is, of tremendous value in preventing the spread of disease. Their use must be continued if we are to retain our present high standards of preventive medicine. The dissemination of disease can best be controlled by killing the germs which cause disease. This is a fundamental fact which has been proven to the entire satisfaction of the medical and public health professions, and to the layman as well. However, it is necessary that these disease germs be *actually* killed. It is not enough to simply smear the germs around with soap solutions. Disease germs are dangerous. The only safe way to deal with them is to kill them. There is no compromise with safety.

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The Future of the Insecticide Vaporizing Machine

By A. A. Breuer

Breuer Electric Mfg. Co.

THERE has been a great deal of interest created among the manufacturers of insecticides since the coming on the market of the vapo or steam sprayers and there has been a great deal of discussion as to the merits of these machines. There are two types of steam sprayers on the market at the present time. The one that is being most commonly used is the type that has carbon electrodes contacting the water to create the steam pressure for spraying. The other type is a machine with a heating element or stove with a metal boiler in which the steam is created and passed through the necessary nozzles to spray. The electric heater or stove and boiler type seems to be considerably higher in price. The one that the manufacturers are using the most of at the present time and has had the largest sale is the carbon electrode type which makes its contact in the water. When the water is boiled out of this type of machine, it uses no more electricity and automatically shuts off. This type of machine will operate from 25 to 30 minutes, depending on the size of the electrodes and the amount of water used. Due to the fact that the carbon electrode machine is the one hat has been in general use, I am going to speak almost entirely on this type of machine and on the kind of insecticide that should be used to get the best results.

I have made an investigation among a number of companies manufacturing insecticides, trying to obtain their experiences with this type of sprayer as to the actual killing power of the insecticide used. There seemed to be quite a variation in the opinions of the parties consulted. In the writer's opinion, the best results possibly can be obtained by using concentrated material but as to the actual proportions of pyrethrum used in the material, this varies a great deal in the opinion of many of the manufacturers of insecticides. A number even claim they obtained as good results with the regular insecticides as they were able to get with different concentrates which they had tried.

It seems that the manufacturers of insecticides themselves have not carried on a sufficient amount of tests actually to know just what the material is accomplishing. But they are depending a great deal on what their salesmen, who are selling the insecticide and the sprayer, have observed themselves and what their customers have told them as to the results obtained. Some have actuly been well satisfied with the results and others, of course, have not.

You, of course, understand that the manufacturers of the sprayers have not conducted any tests with the different concentrates to see actually the kill and I do not believe they can enlighten the members of this Association very much on their own experience. What they are trying to do, primarily, is to produce a machine that will spray either regular insecticide or concentrate via the vapo steam sprayer type.

From investigations that I have made in consulting the manufacturers of both materials; those who are manufacturing concentrate make many claims as to just what the concentrate will do; those manufacturers who are using regular insecticide are of the opinion that they get practically as good results, or so close, that they do not believe it is advisable to sell the concentrate on account of its higher price. From the investigations that I have made I honestly believe that the manufacturers of insecticide should make a thorough test themselves under actual working conditions and should take the time, either through their laboratories or go out with their salesmen to see the results that they obtain with the concentrate and with the regular insecticide so that they may determine what is the best for them to use.

I have been advised that there are many different concentrates being sold. Some as high as 10 or 12 to 1; others 6 or 7 to 1; some 3 to 1 and some regular insecticide. Now with this variation and the difference in prices of the material, it confuses the customer or user very much and there should be some action taken by the Association to arrange either through the laboratory of one of its members or through some other independent laboratory to have tests made of the different concentrates so as to be able to determine which is the best. By that, I mean which will make the best kill of all different types of bugs, either the flying insects or the crawling bugs. From the reports that I have been receiving, it does not take as heavy a concentrate to kill the flying insects such as flies, etc., as is necessary for killing the crawling bugs such as roaches, water bugs, etc. You are all aware, however, that the insecticide that you sell must contact to kill.

If nothing is done with reference to some standard concentrate, there is going to be a great deal of trouble in the way of price-cutting and confusion in the trade as one manufacturer who is giving a 10 or 12 to 1 concentrate and is charging, say $8.00 per gallon makes a sale and another salesman comes along and says he can give the same for $4.00 a gallon and undoubtedly it will get down to the point where the prospective customer will be

confused on account of this variation in price and not knowing the difference between the different concentrates, it may cause serious difficulties among the different manufacturers. If some standard can be adopted and some serious thought put in to determine what concentrate should be used or whether the so-called regular insecticide will do the work with the vapo or steam sprayer, it would eliminate this confusion.

However, it is for the manufacturer of insecticide to determine whether or not his product can be used in a steam sprayer and the quantity necessary to be used for satisfactory results. He is the one that knows what the pyrethrum content of his particular insecticide is and should know what quantity is needed for the proper kill. It seems that few, if any, scientific tests have been made in this respect and that in most cases recommendations are being made more on the basis of opinion than on actual facts. It is the opinion of some leaders in the field that where a contact insecticide is used the real effect of a steam sprayer is to drive the insects into the open where you can obtain the most effective results.

One of the most important things in using vapo steam sprayer which has carbon electrodes or metal electrodes, is to know whether your water contains minerals such as iron, sulphur, etc. The water acts as a conductor for the electric current through which the water is heated. As the proper operation of such sprays depends to a great extent on the mineral content of the water used, I believe this is one of the most important points to be considered in any discussion about operating steam sprayers to the best advantage. Because the water conditions vary a great deal according to the section of the country, a trial should always be made before using any such steam sprayer to determine whether the water contains a relatively large percentage of minerals, such as iron, sulphur, etc. (and well or spring water generally does).

In order to make this test, one simply fills the water jar to the proper level (as indicated) with water of one's community and connects the cable to the electric current. Then, after waiting 6 to 10 minutes, depending upon the time recommended by the manufacturers of the sprayers for getting up the steam one can determine whether or not the water has sufficient mineral content to make the necessary contact between the electrodes to enable them to bring the water to the proper boiling point and thus develop the required steam pressure.

If the steam pressure is not developed in the time specified by the manufacturer of the sprayer, then it is necessary that a very small quantity of salt be added to the water. Care must be taken, however, that too much salt is not used because the agitation of the water will then become too violent and the conductivity of the water will be such that the fuse will be blown. A small measure should be furnished by the manufacturer of the steam sprayers for the average amount of salt to be used and then by using one measure of salt which is generally equivalent to a small pinch and again trying the machine it can easily be determined whether the correct amount has been added.

If considerable excess steam comes out of the safety valve after the water has been boiling for several minutes, then too much salt has been added and part of the water should be poured out and fresh water added so as to make a weaker salt water solution. If on the contrary, the water still does not come to a boiling point within the specified time, then add a small portion of a measure of salt more until the sprayer operates within the limitation set by the manufacturer of the sprayer. It has been my experience that it is far better to adjust the quantity of salt so that the water does not come to the boiling point too quickly. It is advisable for better operation to have the machine take a few minutes longer than to boil too rapidly.

It is important that no more salt ever be added to the water unless all the old water in the steam jar is emptied out entirely as when steam is created all the impurities and salt are left in the jar and if fresh water is added to the old water no salt should be added again to the old water and only should be used again when entirely fresh clean water has been used,—that is, if salt ever was required in the first place. As stated before, some water with a lot of mineral requires no salt whatever for operation.

There has been a considerable amount of breakage of the glass jars used with these sprayers in which the steam is created. When the user puts cold water in the jar while it is hot, naturally it breaks, that is, where they use the ordinary common glass jar. A great deal of trouble, of course, can be eliminated if you insist on the sprayers you are using have heat resisting glass jars.

There are also several drawbacks to the sprayers in operating in different positions. With many machines, it is necessary to tilt the whole machine up to spray in an upward position or tilt it downward to spray in a downward position and this tilting process can be eliminated if you insist on the machines you are using having an adjustable nozzle so as to be able to spray in any position without tilting the machine.

Just a word about the machines operating with a heating element or stove pipe with a metal boiler. These machines seem to be of a higher price and are being used mostly in warehouses, mills, etc. They eliminate the water condition and are equipped with steam gauges and water gauges and safety valves but they also should have a current breaking switch so that when the pressure gets up too high, they shut off automatically.

A great many manufacturers have been experiencing possibly just a little trouble from the vapo steam sprayers and are possibly experiencing some complaints but these, in most cases, are due to the users not operating them properly. You must realize the openings in the nozzles must be very small to get the proper break-up of material and there is a danger of these holes becoming clogged, due to the insecticide having considerable sediment. This, of course, is not a fault of the sprayer. The manufacturer of insecticides should be more careful to see that the insecticide is filtered clear and they will help to eliminate some of the complaints they have been experiencing in the past. There are many new vapo steam sprayers coming on the market and a great many are being put out at low prices. Manufacturers should be alert to determine that they are getting real value and as trouble-free machines as possible.

One of the many things which some manufacturers do not understand is that the steam sprayers are not instantaneous like the electric motor driven machines which have been sold for the past number of years and it takes from 10 to 15 minutes before the steam sprayers will operate It is important that you should read the instruction furnished with the steam sprayers and also all of your salesmen. They in turn should advise the purchasers to read the instruction cards furnished with the steam sprayers you are handling so that they can operate them successfully.

From the standpoint of actual practical value to the user and ease of operation, the electric sprayer is superior and can be used more readily and effectively. To be frank, the great appeal of the steam sprayer, outside of its automatic operation, is in its cheaper price. Its popularity with most manufacturers has been due to the success of one manufacturer of insecticide who adopted the method so commonly used by vacuum cleaner and washing machine sales forces in merchandising their product on the house to house or store to store selling. It is to be remembered that this type of selling requires a special setup or organization for handling it and unless house to house or store to store crews are used, you cannot expect to obtain the same results in your organization. Naturally, you will not be able to sell as many sprayers or as much insecticide if you are not equipped to sell this way. No other company has ever adopted this merchandising method of their product with an electric sprayer on this same basis and as a consequence the general public has become more familiar with the steam type sprayer than they are with the electric sprayer. If the same methods had been adopted earlier by manufacturers with an electric sprayer the chances are that this would be the popular device today on account of its many advantages and trouble-free service.

I have tried to give you in this talk the facts that I have experienced in the past year and to bring to your attention some of the things that you are going to experience so that you, as manufacturers, will know what to expect and what to demand in a vapor steam sprayer so as to obtain the best results.

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A new liquid cleaner for glass is being introduced by Wisemaid Products Co., Pasadena. The company is headed by Fred L. Cole and Don C. Becker, with C. R. Cook as sales manager. The new product is applied with a spray gun furnished with each package. A minimum resale price of 49c has been set.

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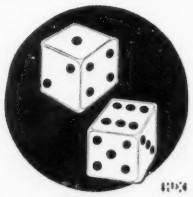

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Pyrethrum Concentrates—Is There Any Justification in Their Growing Sale?

By Robert C. White

Robert C. White Company

AN April 25th of this year, the Chairman of our Program Committee wrote me a brief letter in which the following phrase was outstanding: "The Program Committee, as you know, has you down to discuss the following subject,—'Is There Any Justification for the Growing Sales of Pyrethrum Concentrate?'"

I would call your attention especially to the words "has you down." As a rule when this phrase is used with deliberation, it really means that you are held at a disadvantage, and such would appear to be true in this case, as there are undoubtedly present many who would champion the use of Pyrethrum Concentrates.

This subject might be discussed in two ways. First, that the use of concentrates has been helpful to the industry in that it has permitted the unqualified, so-called manufacturer to turn out a better product than he otherwise would. Second, that many men are now in the Insecticide business, who logically have no right to be in it. A fair discussion of this matter would seem to dictate our discussing it from several viewpoints.

As history goes, the use of Pyrethrum products in liquid form is comparatively speaking, a recent affair. We must all concede that when the use of this product first began, the first manufacturers were not themselves any too well informed, regarding the best method for extracting the active ingredients of this vegetable product, nor were they too well informed as to what the best vehicle might be for more, or less, permanently carrying these active ingredients. They knew nothing at that time of standards, but the fact that in some cases products made according to the same formula worked successfully in destroying insects, and other cases would not, made them aware of the fact that Pyrethrum itself is a very varying and undependable agent.

It must be taken into consideration that Pyrethrum, after all, is a vegetable drug, and like all that great group of products, whether used for internal medication, or for the alleviation of the external annoyances of man, varies in activity from year to year, and will undoubtedly always do so. As is well known, climatic and agricultural conditions tend to produce this in every crop that is harvested. Every added hour of sunshine, every increase, or decrease in temperature, every fractional increase, or decrease in rain fall means a difference in the activity of the crop as garnered. Consequently manufacturers in the early days began to realize that some knowledge, or method of standardization was most imperative, and from these early beginnings has evolved gradually our present knowledge of what Pyrethrum, and Pyrethrum Products under certain conditions will, or will not do. As is well known to all, certain very definite chemical tests are today possible, and just as recently have been perfected certain very practical tests involving the destruction of insects themselves under well controlled conditions. Theoretically this should permit all manufacturers to put on the market good, and reputable products; but during this era of standardization making and test perfecting, a condition has arisen which may be readily understood. In the first place noting the success of the sale of early products, many were tempted to engage in this line of manufacture. It is perfectly obvious that a great many of these were ill equipped to manufacture, or market a controlled product. This condition was also largely catered to by the desire of drug merchants to sell Pyrethrum to a larger number of consumers, with the very natural desire to increase their business. In other words, many merchants of Pyrethrum tempted many to go into the Insecticide business, who had absolutely no knowledge of that business. That these psuedo manufacturers have cluttered up the field is perfectly obvious to all.

In sequence now comes Pyrethrum Concentrate. After the Pyrethrum merchant had inveigled many of the ignorant to engage in the Insecticide Industry, they undoubtedly sensed that the flood of poor products placed on the market would in the end defeat itself as the majority of these new comers are not known anything about Pyrethrum, knew nothing about the Insecticide business, and in the majority of cases cared less. Then, therefore, was born the Pyrethrum Concentrate, on the assumption that if the concentrate manufacturer sold to the so-called Insecticide manufacturers, a concentrate of known strength, the so-called Insecticide manufacturer would be able to dilute this, and ultimately market a product of known strength. Here was born the Dilutor, who ever after, produly claims that he in an "Insecticide Manufacturer." Thus we find with us at this stage of our industry the first, and original manufacturer, who started at the beginning, and developed with the times, marketing, and seeking to market a reputable product made from the crude drug. We have also the insecticide manufacturer, making poor and unstandardized products in the original manner. We have the concentrate manufacturer, who markets his product, supposedly furnished on a standard, and we have with us the honest dilutor, and the dishonest dilutor of concentrate, who claim also to come under the title of "manufacturer."

It may be that some of those present will claim that the addition of a hydrocarbon solvent to a Pyrethrum concentrate constitutes manufacturing. There will be others, however, who will grant that this simple addition of one ingredient to another does not constitute manufacturing. But all must agree,—that whether a product is manufactured economically, and in uncontrolled fashion, with no regard for standards for killing content,—or whether the dilutor dilutes poor, and non-uniform concentrate, or improperly dilutes, or too greatly dilutes a standardized, and valuable concentrate, the result is the same,—namely, a poor insecticide; and we must all further agree that whether the manufacturer of concentrates be honest, or dishonest, whether he recommends proper, or improper dilutions, whether the merchant of Pyrethrum sells Pyrethrum to the manufacturer of a known quality, or of a falsely represented quality, we have with us persistently the danger of the maker of ultimate doubtful products.

The writer's personal opinion is that if the Insecticide manufacturer possesses all the knowledge he should about his product, and furthermore maintains a proper research laboratory, he could undoubtedly manufacture economically high grade products from the original drug. If the manufacturer has a sufficient volume of business, and proper equipment he will find the manufacture of his product from start to finsh most satisfactory. The writer, furthermore has no grievance against, either the manufacturer of concentrates, or the merchant of Pyrethrum, provided he fully discharges his responsibility of proper presentation to the ultimate maker of Insect Sprays, by fully informing him of what is necessary in order to manufacture a reputable finished product. We must realize, however, that the temptation to stress economy is very great, which remains the writer of a paper he presented to this association five years ago, calling attention to the circular of a drug merchant manufacturing a concentrate who stated that one gallon of his concentrate diluted to five, would make an excellent Insect Spray,—and that diluted to ten, would make a good Insect Spray, and that diluted to fifteen gallons it would make an Insect Spray. He, howover, fell short in his duty by failing to state that if diluted to twenty gallons it would make a poor Insect Spray, and that if diluted to twenty-five gallons it would make an utterly worthless Insect Spray.

The writer, therefore, contends that the chief justification for the sale of concentrates is that too many are being tempted into this line of business who are ignorant, or lazy, or both; yet he fully concedes that if this type of individual will honestly dilute a properly standardized concentrate, he can then attempt to market a product of real value, whereas if left to his own devices he would attempt to place on the market a product discrediting to all those products of real merit, which manufacturers for years have striven to perfect. We should not be blind to the fact that our industry like many others, numbers among its ranks men who have not been notably accused of either ethics, or intelligence, and anything that caters to permit them to proceed on their devious ways is harmful to the industry at large.

The writer, therefore, submits his own conclusions as follows: The proper dilution of standardized concentrates may result in a good product, and therefore be justified,—but where improper control and improperly handled may very easily become, and in many cases today is, a menace to our industry.

Discussion

MR. G. A. MCLAUGHLIN (McLaughlin, Gormley, King Company, Minneapolis): I am inclined to agree fully with Dr. White that the distribution of concentrates represents quite a problem, but I feel that it is a problem for the trade as a group rather than for any one firm or group of firms. I don't think it can be claimed, justifiably, that the availability of concentrates has reduced the general level of the quality of insecticide in any respect. I think it is possible for any manufacturer to make a poor insecticide using, say, a quarter of a pound of flowers to a gallon, as well as by diluting too much a good concentrate. The only justification for the concentrate, as Dr. White has expressed it, is that it enables the manufacturer to determine in advance the quality of the insecticide he wants to put out, and then, if he has a standardized concentrate, to maintain that quality.

PRESIDENT DOUGAN: Are there further remarks or any questions?

MR. JOHN POWELL (John Powell & Co., New York): I think it was last summer that we heard the first report of a general improvement in the quality of liquid insecticides. About that time the quality insecticide concentrates were increasing in sales all the time. I think primarily all Dr. White and Mr. McLaughlin have reason to state is that manufacturers can make a good product more economically if they personally want to make a good product. If the fellow doesn't want to make a good product no one in hell can stop him from making a poor one.

But there are a great many manufacturers of concentrate and a lot of people peddling concentrates which are diluted and sold as the original product. I don't know what you can to stop that. That causes a lot of trouble, it is true. It is a matter of interest to manufacturers. If they want to put out good products they can do it and if they want to put out poor ones apparently that is their right too.

MR. V. W. MIDER (U. S. Chemical Company, Greenville, Ohio): Dr. White didn't touch on one phase of the subject. I have found quite a few concentrates being used as concentrated products by the ultimate consumer. I should like to hear from some of the other members as to whether it is important to consider that the consumer is using a concentrate of one to twenty and paying a large price for it or whether he should use a stronger solution in the ordinary manner.

PRESIDENT DOUGAN: Can anyone answer Mr. Mider's question?

MR. POWELL: Just before I left New York City I had a letter from a lady in Montana, the head of the Home Economics Division out there. She stated that the rural women of Montana would like to purchase a concentrated extract of Pyrethrum to manufacture their own insecticide. We wrote to that lady and said that it would be very unsatisfactory for the women of Montana or any place else to make an insecticide, that they would have difficulty in getting the right type of oil, the odor would be unpleasant, and a great many other reasons.

I think the legitimate manufacturers of concentrates are doing all they can to prevent their products getting into the hands of the wrong people, that is, the fly-by-nights, of which there are a great many. But a great many products are being imported. We can attack that problem. We have had some meetings in New York last year to try to control the thing. That's what I want to approach. We should try to control that if possible so that the legitimate resident manufacturer doesn't have too much of this fly-by-night competition to contend with.

DR. WHITE: If I understood Mr. Mider's question correctly, I understood his to say that people were buying concentrates and using them exactly the way they were prepared in lieu of the regular product. Is that it?

DR. WHITE: You want to know whether those results were as good as those with the regular product?

MR. MIDER: I have been unable to find out. Here is the situation: A steam sprayer is marketed with a product that is highly concentrated, on which they obtain the retail price of $10 a gallon. People who bought that at that price are under the impression that they cannot use any other product in that particular vaporizer, and also that a very small quantity, probably a tablespoonful in a large-sized room, will be sufficient to do the work on all sorts of insects you find flying around, in institutions or any place else. That is what I have found. They are using the concentrate just exactly as the manufacturer recommends. There are no directions on the label or the can for diluting the fluid that they obtain with the machine.

PRESIDENT DOUGAN: Do they consider themselves satisfied with the result?

MR. MIDER: No. It makes no difference what they are using the spray with. The fact of the matter is I don't think they use enough of the material to do any good in a given space. It has been related that the salesmen told them it was only necessary to use a very small quantity of concentrate to do the job.

DR. WHITE: In reply to that, I think there is no question about it. Others have found the same thing. The concentrate hasn't a sufficient vehicle to show its real worth, because after all the concentrate is designed to be diluted with a carrier before it is sprayed.

If you take the ordinary lethal chamber and spray into it a proportion of lesser amount of concentrate, you do not have sufficient spray to reach your insects in the same manner that a more diluted solution would with a larger vehicle to carry it. The mechanical end falls down there, not necessarily the killing agent in the concentrate. The concentrate was never intended for that. It wouldn't spread much in a given limited area. That is the reason for that.

MR. POWELL: Mr. President, Mr. Cole has asked me to call attention to the fact that there is a concern on the Pacific Coast importing a concentrated extract of Pyrethrum. We have had occasion to examine a great many of such imported products. I believe Dr. Weed can give the results. Most of our experience has been with the 60, 100 and 120 to 1 material. I saw a fellow on the Coast a month ago and he offered a product. It was in a little bottle. It was supposed to be 99 to 1. He offered another one that was 50 to 1. I brought a sample back with me and I want to ask Dr. Weed what results he got on that product. Dr. Weed tells me that on the so-called 50 to 1 product he got about a 48 per cent kill when diluted.

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The Stabilization of Prices in the Disinfectant Industry

By H. W. Hamilton

White Tar Company of N. J., Inc.

THE general facts to be dealth with in this discussion will apply as well to the insecticide industry and other allied trades. While certain of the basic points will apply to all products, the major aim here is to consider the bulk sales of freely offered commodities in which we, as a group, are most interested. The fact that so much time is spent discussing prices and what can be done to raise them in order to insure some profit, is proof in itself that the individual manufacturer plays a smaller part than most would admit, in establishing his selling prices. Conditions beyond his individual control usually set prices for him. The manufacturer meets the conditions and makes a bid for a sale or he passes the business. The passing of business cannot be done too much or idle plant and organization expenses soon ruin another business. So price becomes a battle cry. A group of manufacturers often feels that it might be well to form a price pool, regulate selling prices and thereby increase the profits of the industry, or at least change losses to profits, red figures to black.

An overcrowded industry does not accomplish this price agreement so easily. When a given trade as a whole is overcrowded and competition is keen, it has almost never been found possible to regulate prices. The reasons for failure are many; First, because the larger number of manufacturers believe that these agreements apply to all but themselves. Second, because these agreements often lead to secret discounts, confidential rebates, shipments of overweights and all the other abuses. Moreover, these agreements have been illegal up to this time and as far as one can determine, they will continue to be illegal as such in the future.

However, when this or any industry is dominated by a monopoly that is really feared, prices can be maintained. The instances of this are rare. A rather extended inquiry has failed to reveal an instance of any other price fixing agreement working successfully except where the industry involved has dug deeped into its business methods than merely price control.

Any trade group seeking to better its conditions and increase its profits, must go into the formation of a trade group with whole-hearted and broadminded zeal. It must avoid the attempts at gathering statistics that are little more than spy systems and the adjusting of prices for the advantage of a member strong enough to put his ideas over on the rest of the group. In fact, the group cannot be dominated by one manufacturer. There must, however, be domination of a sort and it must usually come from without the industry itself through skilled counsel. Foreign competition is also a danger that must be taken into account especially when there is little or no tariff protection.

A properly organized group can keep unscrupulous buyers and purchasing agents properly in line by checking up through their group counsel on alleged deviations from standards, discounts and other practices.

The prices being obtained for our merchandise can be and should be raised. The existing abuses should be forced out of the trade. This must be done within the industry itself "or else"—.

Now at this time, the "or else" brings up the subject of the threatened bureaucratic control from Washington for those industries that do not regulate themselves in step with the times. This threatens licensing systems and so forth. There is not a manufacturer who realizes what this means and might lead to, that wants a licensing system in order to conduct an interstate business. It is a threat. This threat is in the Industrial Recovery Bill, and to be more specific, Section 4B.

Neither in the bill nor in the thoughts of the man sponsoring the bill is there to be any price fixing as such. The following is quoted from an article in the New York Times, Sunday, May 28th, written by Senator Robert E. Wagner, Senator from New York, Sponsor of the Bill:

"To establish order in industry, our traditional attitude toward competition is recast. The business rivalry sanctioned in the past has been blind, ruthless and destructive. We propose to substitute a competition which shall be rational and constructive, which shall be based upon full information, and which shall be confined to honorable salesmanship and technological improvements in industry, rather than extending to progressive reductions of the standards of living of working people.

"With this in view, the new bill provides that any trade or industrial association may formulate voluntarily a code of fair competition. This code may define fair and unfair practices and may provide for exchanges of information, cooperative marketing, standardization of products, simplification of processes and a wide variety of other matters. It becomes effective upon the approval of the President, and thereupon is binding upon the entire trade or industry; and any action complying with its terms is exempted from the anti-trust laws.

"While the social waste of uncoordinated activity in industry is reduced, adequate safeguards are taken against the misuse of cooperated strength. No voluntary code will be approved unless the group or association proposing it is representative of the entire industry and imposes no inequitable restrictions upon membership. *Nor will sanction be given until the President is convinced that the code will neither promote monopoly nor facilitate oppression of any group engaged in any phase of economic activity, including consumers and workers.*"

The proposed bill helps industry, but it helps labor more. By helping labor, it is thought that the entire industrial machine will be stimulated. Again let it be pointed out that no particular mention is made as to permitting price fixing as a basis for the formation of a trade association agreement. Price fixing alone cannot be made legal. Moreover, the Industrial Recovery Act is for a two year period only, and it is certain that groups will not be permitted to form themselves so hard and fast that they cannot be broken up. Any trade association that organizes itself along the lines being discussed here, and in keeping with the Industrial Recovery Bill, must be approved by the President—and always there is a threat to organize or be dominated.

Knowing as we all do, the expressed thoughts of the Administration, no group code can be expected to pass the critical eye of the Administration that does not include the 30 hour week with 1929 full time pay depreciated to present living costs. Likewise, any code must include the other policies of the Administration or the code need not be accepted.

In closing, it might be well to review possibilities for our industry. A group meeting can be held and a code drawn. This code should express a desire to better the conditions of our industry as a whole, provide for the proper hours for hourly labor; establish broadly rates of pay; provide for the exchange of such information as well as insure reasonable profits on sales and agree to assist in the abolishing of cut-throat practices that may now exist in competitive selling. Commercial standards for various grades of products should be adopted, published and adhered to There are other ways of abolishing price cutting than by merely price fixing. Price cutting is due to a greed for volume and it might be that a nominal tax on excess volume would make that increase in volume a little less desirable. On the other hand, an extra volume at a fair price can stand a moderate tax. This tax, of course, would be paid to the association as a whole, and the money used for the promotion of the general betterment of the trade, such as counsel fees, research, both scientific and commercial, and public education.

This organization should, during these sessions, arrange to prepare its code to be presented to the Administration. Our Association is not new and it can work rather quickly. It should start immediately so that definite procedure may be established while we are in Chicago. The actual adoption of the code can take place later. If stabilization of prices is really wanted, it can now be accomplished; not quite directly, but through a careful housecleaning which is certain to result in better prices. A code adopted by a majority of the trade and accepted by the President of the United States can be and will be forced on the others who have chosen not to join with us in forming the code. Invitations must be issued to all who manufacture similar products to express their attitude in this matter.

This problem has here been dealt with broadly. It is the duty of all men to think deeply on this subject. Not only our industry and general business affairs are affected, but the power which the Administration in Washington can wield over industry is great. The possible results are too far reaching even to imagine. This is another reason why we must be closely organized for our own protection while the present conditions in trade and politics exist.

In closing, it is recommended that a committee be appointed at the Insecticide and Disinfectant trade in keeping with the Industry once to present a plan for preparation of a code applicable to trial Recovery Bill and the wishes of the Administration in Washington. This committee to report early in the next session.

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The Farm Market for Insecticides, Disinfectants, and Stock Spray

By W. H. Kircher, Field Editor
The Farmer's Wife Magazine

A BATTLE against diseases and insects is constantly being fought on the farm, and upon its outcome depends both the health of the farm family, and its means of earning a living. For this reason, members of the family have had to acquaint themselves with all old weapons for a successful fight and be ever alert for new ones.

In good times and bad, this fight has to be carried on, because whether times are good or bad it is important to save the food supply. In fact, bad times have created a situation in the farm field calculated to increase the use of insecticides. Hundreds of thousands of farmers are finding that the farm gardens play an important part in farm economy. The extension department of every college of agriculture in the United States has been promoting so-called "live-at-home" programs. The chief feature of these programs is the maintenance of a garden large enough to produce the year's food supply for the family. The size of family gardens therefore has grown considerably—so much, in fact, that 4-H Club girls alone last year packed 6,000,000 cans of vegetables. It naturally follows that where so much attention has been turned to gardening, that the gardens are being given better care. The extension agents also have encouraged renovation of old briar fruit patches in an effort to get them back into production, and the rejuvenation of old orchards which, because of insects, haven't produced good fruit in years.

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Renovation of old briar patches has been a simple thing as compared to the job of rejuvenating these old orchards. If the latter work was to be successful there first had to be a considerable amount of pruning done and there had to be power machines for spraying the trees. Getting these power machines was expensive, and because the family orchards were small, it was impractical for individual farmers to invest in them. That problem has been solved, however, by the increasingly large number of spray rings which have been formed during the last three or four years. Groups of ten or twelve farm families club together and purchase a small spray outfit, and then take turns in using it. This plan has worked out very well in spite of the necessity of covering a lot of trees during a critical time such as the first and sometimes the second codling moth sprays. During such periods the community spray outfit is kept in constant service, and covers several small orchards as efficiently as it would cover one or two large ones.

This increased production of fruits and vegetables on general farms, has made the general farming areas a market worth the consideration now given the commercial fruit and vegetable growing areas.

Another development that has had a tendency to increase the use of plant insecticides on general farms has been the great interest in farmstead beautification. This is partially due to promotion on the part of the extension service. In several counties in the Middle Western and Eastern states farmstead beautification contests have been carried out over a period of from five to eight years, and each year adds something to farm grounds plantings. Another thing which has helped toward beautifying farmsteads has been interest directed from the commercial or money-making aspects of farming to the farm as a place to live. Still another help in this direction has been the return to the farm of farm-reared boys and girls who have lost their jobs in the cities. They have gone back home to find less farm work to do than there was when they left, so in seeking something with which to occupy their time they turn to grooming the landscape.

As good evidence of this trend of interest is the experience The Farmer's Wife Magazine has had in acceptance by its subscribers of farm beautification leaflets. In a spring issue such a leaflet was announced, and in one week there were 2,000 orders for it. Other such material has received a like welcome.

A large plant insecticide market is bound to grow out of this increased interest in ornamental plants and planting.

Of the other markets for outdoor insecticides, the most important is the market for poultry insecticides. Educational work done by publications, by insecticide manufacturers, and by col leges has stressed the immense losses to the poultry industry as the result of such parasites as intestinal worms, lice and mites. This is done because these parasites cause heavier losses than all diseases combined. In fact, they are the wedges which open the road to disease infection—not that all of them are disease carriers, but they get the birds in such condition that they are susceptible to disease.

There is need for further educational work along this line. Too many flock owners still think of mites and lice as being the same kind of bugs, and that in treating the birds to kill lice, mites are being killed at the same time. There is, therefore, an opportunity for expansion of the market for the wood preservatives, and other mite killing insecticides. The market for louse killers has been given considerably more attention, but that new louse killers still are welcomed by flock owners is seen in the success enjoyed by the manufacturers of the nicotine sulphate roost paints since they have been concentrating on this market.

But just as important as outdoor insecticides, are those used in the farm home. This is true because the prevalence of many varieties of indoor insects is greater in the farm home than in the city home.

From early spring until after killing frosts in late fall the fight against flies has to be renewed every morning and carried on all day. It is a fight in which the fly swatter is of no help, because there are too many flies to be killed. In the city this is not the case, because there is control over fly breeding places. Such control is impractical, and almost impossible on the farm.

The chief fly breeding place on the farm is the manure pile, and to keep it from being a breeding place it is necessary to build a manure pit or to haul manure to the fields every day. Unfortunately the time when flies are reproducing is just the time when crops are growing in the fields and manure can't be scattered then. Unfortunately, too, the cost of a manure pit large enough for most general farms costs a hundred dollars or more. Contrast that investment with the eighty cents spent for a covered garbage can that shuts off the chief fly breeding place in the city.

Screens, of course, are a help in keeping flies out of the rural home. But again we have a problem peculiar to the farm. There is considerably more traffic through the kitchen door on the farm than there is in the city. Water, in many instances, has to be carried in from an outside pump, chickens have to have attention, there is traffic to and from barns and fields. Flies thus get a chance to enter, and they make the most of it.

The worst possible place for flies is where they can get to the food supply intended for the farm family itself, and for its customers in the city. Farm homemakers realize this, and they are using every available means of fly fighting. This fact is brought out clearly in a farm consumer survey recently made by The Farmer's Wife Magazine. This survey dealing with fly and mosquito sprays used in farm homes was made in Wisconsin, Minnesota, North Dakota, Nebraska, Kansas, Illinois and Ohio. Of the farm families reporting, 83.4 per cent bought such insecticides. Fifty-seven per cent of the buyers bought large cans, some of them finding use for 16 large cans during the season. It would appear from the number of large can buyers that some of this spray was used outside the house, possibly for cattle spray, but that is not the case, because a cheaper spray is used for such purposes. There was only a third of the buyers who bought small cans, but even this group used a great deal, some of them reporting purchases of as high as 25 small cans a season. Footing the list of buyers were those who bought both large and small cans. This group comprised only five per cent of the whole.

Now what does this mean in terms of dollars and cents? There are, of course, difficulties in translating survey findings into such terms, but it can be done in a general way. A most conservative estimate, based on the number of cans sold at retail prices to the families reporting, shows that in these seven states alone there is an annual market for considerably more than a million and a quarter dollars worth of this kind of insecticide.

To manufacturers of fly and mosquito spray, another interesting fact brought out by this survey was that 70 per cent of the rural insecticide buyers bought nationally advertised brands in spite of the fact that unbranded insecticides can be bought at nearly every rural store where branded insecticides are handled.

The question concerning the seasonal prevalence of insects, particularly flies and mosquitoes, brought out this information:

12.1 per cent said they had most trouble with insects in June.
21 per cent said they had most trouble with insects in July.
34.7 per cent said they had most trouble with insects in August.
29.7 per cent said they had most trouble with insects in September.

In considering the rural market for mosquito insecticides we find, as in the case of flies, that the prevalence of breeding places on the farm accounts for mosquitoes being a more prevalent pest there. It is impossible to treat two of the worst of these breeding places, the livestock watering tank and the pond, because in treating them the water automatically is made unfit for the livestock. And because the farm family spends about 90 per cent of its evenings at home during the summer, its members find plenty of need to use the spray gun against the swarms of mosquitoes that come from these hatcheries.

If at first mention this matter of the farm family's spending its evenings at home does not appear to be a considerable factor in insecticide sales, try to picture yourself at work cultivating corn on a white hot afternoon. It is about 3 o'clock and you begin to look forward longingly to resting on your cool, screened front porch as soon as you get your chores done in the evening. Finally the afternoon wears away, you milk a half dozen cows, eat your supper, and go out on the porch to rest. You just get set and mosquitoes that somehow have gotten through the screen or an open door start puncturing your shins. In a situation like that you would do something about it, and so do the members of the farm family.

But flies and mosquitoes combined do not do the damage that is done by the clothes moth. Here again is a situation rapidly

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Para-nitrobenzoyl Chloride	Alpha-Chlornaphthalene
	Special Salt
Benzyl Chloride	Hydrogen

HOOKER HE CO ELECTROCHEMICAL

HOOKER ELECTROCHEMICAL COMPANY

Eastern
Plant—Niagara Falls, N. Y.
Sales Office—60 E. 42nd St., New York

Western
Plant—Tacoma, Washington
Sales Office—Tacoma, Washington

1527

becoming peculiar to the farm. When the farm homemaker prepares winter garments for summer storage there is no commercial store house to which she can send them. They have to be kept in the home, and there is no professional insect exterminator she can employ to do her work for her. She has to do it herself, and she has a great deal of it to do. Because farm work is outdoor work, more woolens are needed on the farm than are worn in the city. And it's common knowledge that a hungry moth isn't very finicky about his food. He'll enjoy gnawing a piece out of the back of a flannel undershirt just as much as he enjoys a meal off the arm of the most expensive fur coat. So the woolen underwear, and the other woolen garments together with the bed woolens, and fur garments have to be moth proofed. Overstuffed furniture and carpets and rugs also furnish a better moth pasture on the farm than in the city, because there are so few power vacuum cleaners on the farm. The farm woman, therefore, must buy moth killers for every piece of wool in her home, and because she has so often been disappointed by the ineffectiveness of moth balls and cedar chests, she has most willingly accepted the new insecticides.

And because ants do their thieving under her eyes, she is fighting them as vigorously as she fights moths. Because of ants' fondness for sweets they are especially troublesome during the fruit canning season. Bulletins published by various colleges of agriculture and by the United States Department of Agriculture mention the destruction of nests as being one of the best means of ridding the premises of ants. But if such destruction is not done with kerosene or boiling water, it must be done with poisons that the homemaker does not want to handle so she buys ready prepared ant killer. This practice often is necessary anyway because of the inaccessability of the ant nests, making it impossible to get either boiling water or kerosene to them.

Another insecticide that quite certainly would be welcomed by farm women is one with which she can combat the grain beetles and flour moths that get into her kitchen cabinet. Her store of flour, and other cereals usually is large, and when bettles and flour moths get into them, the loss is correspondingly heavy. Produce an insecticide with which these pests can be fought successfully, and the warm woman will welcome it with an open purse.

Bedbugs and roaches usually are considered pests peculiar to the city, but unfortunately for farmers this is not the case. Roaches seem ever so willing to exchange their favorite abiding place around the steam and water pipes in the city to the farm home basement, because there it finds food in abundance.

So many inquiries for instructions on ridding the household of bedbugs have come to the various state colleges of agriculture that some of them have published bulletins on the subject. One of the means of bedbug spread to the farm home is the housing of transient labor during the busy seasons such as the summer harvest and corn husking season in the fall. Another means is through the purchase of infested poultry. Bedbugs reproduce as rapidly in the poultry house as in the dwelling because they usually live unmolested there for a longer period than they do in the dwelling. They hide as do the chicken mites in the cracks and crevices around the perches, and nests, and when the chickens go on the roost at night they have their feast. They are easily carried from the laying house into the dwelling by the flock caretaker.

As in the case of many of the insecticides, the amount of disinfectants used by the farm family is large as compared to the amount used in the city home because they are used both for the protection of livestock health and human health. And because new diseases are breaking out in herds and flocks every year, and some of the old diseases become more virulent need for disinfectants is ever increasing. This is especially true in poultry raising. Just when it appears that a way has been found to combat one disease successfully a new one comes along that presents new problems. The result is that laying and brooder houses must be disinfected at frequent intervals, and during part of the year some kind of disinfectant must be kept in the flock's drinking water.

A field that might profitably be explored further by the disinfectant manufacturer is the use of disinfectants in the water supply of the farm family itself. I am told by the Minnesota State Sanitary Engineer that his office gets large numbers of calls for information on the subject of drinking water disinfection, and the only advice that his office can give is that if for any reason the present water supply is dangerous, then the source should be changed. Such changes, of course, are quite expensive. Use of chlorine disinfectants in cisterns frequently has been tried, but trouble was encountered because of the instability of such disinfectants in the presence of the large amount of organic matter so often found in cisterns. A part of this trouble very likely could be overcome by the use of good filters in the intake spouts of cisterns, but a far more practical way of overcoming the trouble would be the development of a disinfecting filter through which the water passes when it is being drawn from the cistern or well.

Too often, especially in such times as these when every effort is being made to reduce taxes, we think of the farm family as being so surrounded with governmental help that most of its problems, including those of disease and insect control, are solved. Actually, however, the farm family has much less help in these matters than does the city family. For this reason the farm family looks to you manufacturers for disinfectants and insecticides that are safe in lay hands. In this dependence upon you lies your opportunity—an opportunity that means a vast market for you.

—o—

Para-Dichlorobenzene as an Insecticide and Deodorant

By F. W. Wolff

E. I. du Pont de Nemours & Co.

THE losses resulting from the infestation of moths in woolen clothing, upholstered furniture and rugs in the United States are estimated at from $100,000,000 to $200,000,000 annually. It has been reported that one female moth's descendants can destroy 100 pounds of wool a year which is equivalent to that produced by thirteen sheep. The damage from the moths ravages to wool, hair, fur and feathers or articles produced from these materials are a constant cause of worry and loss also to manufacturers and merchants.

A favorite suit, with moth-eaten patches down the front, a fine rug utterly ruined because one corner has been destroyed by moths, an expensive upholstered chair completely infested by these destructive pests—what can be done to prevent such tragedies?

Every housekeeper knows that clothing in daily use, exposed to sunlight and air, does not suffer from moth damage, for as a rule moths attack only those garments that are carelessly stored away, the portions of rugs on which furniture stands, the filling and fabric of over-stuffed furniture, and woolen garments left hanging in dark closets.

Clothes moths are the prime offenders among fabrics pests. The moths or "millers" most common about houses have a wing spread of about half in inch and are yellowish or buff colored. They very seldom fly directly to a light in a room and remain flitting about it, as do so many small and large moths that enter houses from outside. Moths that fly in large numbers about the home lights are generally feeders upon outdoor vegetation and will not eat household fabrics. Their presence in the house is accidental—they have merely been lured inside by the glowing light.

The common clothes moths are usually seen flying in darkened corners and just beyond range of the brightest ways of the lamp. They prefer darkness. They are frightened when clothing and other objects are suddenly moved, and are then seen scattering rapidly to conceal themselves in the creases of clothing, cracks, or other dark places.

It is important in a fight against clothes moths to know something about their biology and life cycle consisting of the egg, the larva, the pupa, and the moth.

The moth, or "miller," which is the adult, seldom lives as long as one month. Moths are more likely to die between the seventh and fourteenth days after they emerge from the pupa. Apparently they take no nourishment, and the female moths begin laying eggs before they are fully 1 day old and usually lay eggs each subsequent day of their lives. When a moth stops laying eggs it is a sign that she will die within a day or two. Few moths have been known to lay over 100 or 150 eggs, and of this number at least one-half are laid during the first few days of adult life. As many as 59 eggs have been laid during 24 hours by one female, but this is an unusual number.

(*Turn to Page* 103)

Are Your Pyrethrum Dollars Inflated?

They will be if you don't get
the most "kill" per dollar

BENKERT'S PYRETHRUM

Ground
Powder
Concentrate No. 15
Derris
Red Squill

will keep your finished product on the "gold basis"

W. BENKERT & COMPANY, INC.

100 Gold Street — New York City

Detroit Representative
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Chicago Representative
Mr. Even M. Tysdal,
325 West Huron St.,
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St. Louis Representative
Mr. Joseph Fahey,
Cotton Belt Building,
St. Louis, Missouri.

"Clean-Up with" VOGEL SPRAYERS

Vogel Sprayers give you the greatest returns in profits and satisfaction because they are staunchly constructed for long service at an economy price.

THE SPRAYERS are compact, durable and well worth a higher price. Regular hand and continuous types.

THE CANS, which are standard insecticide containers, come plain or lithographed in standard stock sizes for liquid contents, gross or carload lots.

Also **Deodorizing Block Holders —Shaker Top Cans For Para**

WILLIAM VOGEL & BROS., Inc.

37-47 South 9th St., Brooklyn, N. Y.

Appoints Recovery Act Committee

President Peter Dougan of the National Association of Insecticide and Disinfectant Manufacturers has appointed a committee to draw up and submit to the Board of Governors and the membership a code of fair competition under the Industrial Recovery Law. Dr. Robert C. White of the Robert C. White Co., Philadelphia, is chairman of the committee. Other members include J. L. Clark of Dr. Hess & Clark, Inc., Ashland, Ohio; Russell H. Young of the Davies Young Soap Co., Dayton, Ohio; William J. Zick of Stanco, Inc., New York; W. L. Savell of the Mathieson Alkali Works, New York The president and secretary of the Association will serve ex-officio.

—o—

C. B. K. Argall, chemist in the employ of McLaughlin, Gormley, King Co., stationed in Kobe, Japan, to assay pyrethrum flowers as they come from the Japanese fields, recently arrived at the home office in Minneapolis for an intensive study of the company's latest methods of assaying and standardizing its pyrethrum products. He is accompanied by his wife and is planning a short trip to his birthplace in England before his return to Japan in September.

—o—

Soilicide Labs., Upper Montclair, N. J., manufacturers of poison grains for th eexterminating trade, have developed a new specialty sold as the Thalate Ant Trap. The bait impregnated with thallium sulfate is contained in a small can about the size of a pill box. By turning the cover, an opening in the can is secured through which the ants may enter.

—o—

New insecticide advertising of Ralston Purina Co., St. Louis, is of the cartoon comic-strip type. A test campaign was run in the *St. Louis Post Despatch*, results being tabulated by the Gardner Advertising Co. A new and improved spray gun is featured this year, containing a glass reservoir which facilitates re-filling by keeping the quantity of liquid in the gun readily visible.

—o—

The Hillebrand prize of the Chemical Society of Washington has been awarded this year to Dr. F. B. LaForge and Dr. H. J. L. Haller, of the United States Department of Agriculture, for their discovery of the chemical structure of rotenone. The award was based partly on the intrinsic importance of the discovery, and partly on the fact that the two men won by a few weeks a race to identify the substance, in which chemists of Germany, England, Japan, and the United States were engaged.

—o—

A janitors' supply business has been started by Bagley's Gas Appliance Co., 1714 Third Ave., North, Birmingham, Ala. The concern will manufacture hand soaps, scrubbing soaps, deodorant blocks, etc.

New Phosphorus Paste Gun

A new type "gun" for the application of phosphorus paste by exterminators has been developed by the Sennewald Drug Co., St. Louis, manufacturers of phosphorus

paste. The new "gun" is designed for applying the paste against insects, especially water bugs and roaches. It is not for use against rats. The gun which is twelve inches long and weighs 1½ pounds, has a capacity of ¾ pound of paste. One fillling will lay down a ribbon of paste 200 feet long and ⅛-inch thick. It works like an automatic pistol, a pull on the trigger forcing out an even flow of paste permitting it to be forced into cracks and crevices, under and behind baseboards and plumbing fixtures, and other places hard to reach by hand. The company is giving one gun free with each 50-pound pail to their paste.

—o—

New Application for Deo-Base

In addition to its chief use as an odorless base for the manufacture of liquid household insecticides, Deobase, manufactured by L. Sonneborn Sons, Inc., New York, is finding a new application in a general "clean-up" spray in the horticultural industry against chewing and sucking insects, according to the maker. Experiments conducted by Dr. J. M. Ginsburg of the New Jersey State Agricultural Station at New Brunswick, N. J., gave practically 100 per cent kill on mealy bugs, red spider, white flies and aphis along with complete egg destruction and without injury to a wide range of greenhouse plants, according to the manufacturer.

—o—

New Non-Inflammable Insecticide

Solarine Co., Baltimore, has developed a non-inflammable insecticide which is being introduced under the name "P.D.Q." The new product has been passed on by the Steamboat Inspection Department of the U. S. Department of Commerce as safe for transportation without restriction upon steamers carrying passengers and to be used as stores on pleasure and passenger vehicles. Other popular insecticides do not enjoy this latitude in use because of the fire hazard. Solarine Co. manufactures a line of polishes and cleansers, as well as "Deodofoam" for household sanitary use.

The Modern Insecticide

Uniform — Dependable — Quick

Insecticide users have learned to demand a product which will act quickly, kill certainly and which shall be uniformly dependable. To satisfy this demand, a new type of insecticide has been developed which acts more quickly and kills more certainly than any natural product does. In addition, it is free from the inescapable variations of natural products.

LETHANE 384

satisfies every insecticide requirement. It is safe and sure in its action. It kills more rapidly. Most important of all, it does not vary from lot to lot. Lack of uniformity will injure the reputation of your product more seriously than any other factor. Eliminate uncertainty. You can depend upon Lethane 384.

Röhm & Haas Co., Inc.

222 West Washington Square, Philadelphia, Pa.

We could tell you of the care in manufacture, of the jobbers we serve and how they count on our quality merchandise and prompt shipments—but this does not show what we could do for you.
There's only one way in which that can be done. Give us a fair trial to serve your requirements. We'll show you that our service is exactly the thing you need to increase your business.

NATIONAL INSECTICIDE AND DISINFECTANT MFRS. ASSN. INC. 1914 INC.
MEMBER

"EXTRA SATISFACTION"

It's the "extra satisfaction" you give your customers with Chemical Supply merchandise that is responsible for the good will and confidence that your customers invest in you. This "extra satisfaction" goes a long way toward helping you to your objective—more sales and larger profits. We urge you to write us about your requirements as we can give you the advantage of both quality and low price.

Coal Tar Dips and Disinfectants
Pine Oil Disinfectants
Phenol Insecticides
Perfumed Insecticides
Cattle Sprays
Metal Polish
Cleaning Compounds
etc., etc.

WRITE FOR SAMPLES, QUOTATIONS AND FURTHER INFORMATION

THE CHEMICAL SUPPLY COMPANY
2450 CANAL ROAD CLEVELAND, OHIO
"SERVING EXCLUSIVELY THE WHOLESALE TRADE SINCE 1878"

The Capitol Chemical Co. has been organized in Topeka, Kan., to engage in the manufacture of soaps, insecticides, etc. Offices are in the Crawford building, Topeka.

—o—

Clorox Chemical Co., Oakland, Calif., last month, June, declared the regular dividends of 50c a share on the capital stock of the company, thus continuing the rate of $2 per year.

—o—

Samuel H. Bell of the Koppers Products Co., Pittsburgh, accompanied by Mrs. Bell and their three children, sailed June 28 for a two months' motor trip through Europe. They will visit France, England, Belgium, Holland and Germany.

—o—

John C. Wolke of L. Sonneborn Sons, Inc., New York, is the father of a son, Richard E., born June 2 at the Orange Memorial Hospital, Orange, N. J. Mr. Wolke is well-known in the insecticide and petroleum industries.

—o—

J. L. Hopkins & Co., New York, have appointed Harold S. Deane as Chicago representative, covering the adjacent territories in Illinois, Indiana, Michigan and Wisconsin. George N. Cox represents J. L. Hopkins & Co. in Kansas, Oklahoma, Arkansas and eastern Texas.

—o—

An appeal to the United States Court of Customs and Patent Appeals will be taken by the assistant attorney general at New York on the recent decision of the Customs Court to admit derris extract into United States free of import duty.

—o—

Ceda-Flaxe Co., Repetti Building, L. I. City, N. Y., is using a cedar wood counter stand and a facsimile cedar tree display card to promote sales of its moth preventive, "Ceda-Flaxe".

—o—

Higher Prices First

(*From Page* 81)

early date. A preliminary code covering working hours and wages must be drawn now for submission to Washington but other features of the code can wait. If a code is brought up for preliminary discussion before the National Association of Insecticide and Disinfectant Manufacturers at its meeting next December in New York, it will be time enough, we are informed. In the meantime, strong unofficial efforts to raise the general level of prices would be the longest step to help the operation of any code which might be adopted later.

Reilly
TAR & CHEMICAL CORPORATION

CRESYLIC ACID
CRESOL
CRESOL U. S. P.
XYLENOL
TAR ACID OILS
NAPHTHALENE

. . . and other Coal Tar Chemicals for the

SOAP and DISINFECTANT INDUSTRY

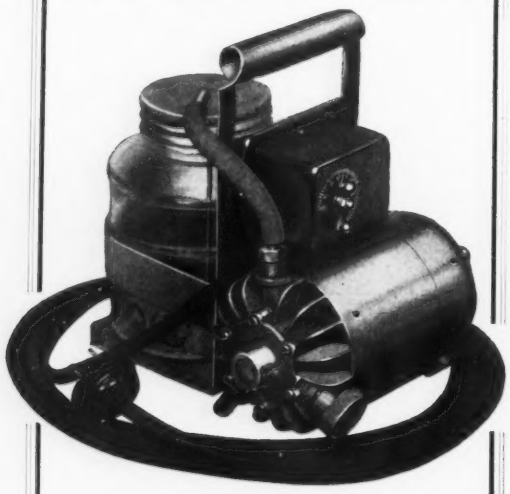
Reilly
TAR & CHEMICAL CORPORATION
MERCHANTS BANK BLDG., INDIANAPOLIS
500 Fifth Ave., New York
2513 S. Damen Ave., Chicago
12 Plants to Serve You

LOWELL

Announces

A NEW

ELECTRIC SPRAYER



No. 300

1. Heavy duty universal type motor for AC or DC current.
2. Develops 20# average head pressure.
3. Time switch permits stopping of motor at any desired period.
4. Motor consumes about one half as much current as steam outfit.
5. One quart glass container.
6. Safe and compact. An ideal outfit for exterminators.
7. Will handle any insecticide and is convenient, neat and easy to use.

FOR EFFICIENCY!

LOWELL MANUFACTURING CO.

LOWELL — MEMBER NATIONAL INSECTICIDE AND DISINFECTANT MFRS. INC. 1914 — MICHIGAN

for YOUR PRIVATE LABEL

SPECIAL CLEANSERS

Our list includes the most efficient cleanser compounded for your particular trade.

SUPER ALKALIES

These are products which are adapted for special uses where stronger alkalies are required.

SNOWFLAKE CRYSTALS

The accepted base for quality bath crystals.

SCOURING COMPOUND

An effective abrasive product for cleaning floors, marble, etc.

PARADICHLOROBENZENE

This exceptionally pure product is an excellent deodorant and moth preventive.

ORTHODICHLOROBENZENE

For insecticide sprays and metal polishes.

PUT Solvay quality into your packages and get more out of your private brand. Write for Booklet SC7 for particulars on products for your special trade.

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

61 BROADWAY — NEW YORK

SOLVAY PRODUCTS

Paradichlorbenzene

(*From Page 97*)

The eggs are laid singly or in groups of as many as 25, either loosely upon or between folds of fabrics. In loosely woven goods, such as yarns, carpets, and rugs with heavy nap, or heavy woolen clothes, the eggs are placed down in the meshes of the fabric, where they are held by the fine threads. On certain closely woven serges they are laid so loosely upon the surface that they can be shaken off. In furs, the female may burrow down among the hairs to the skin itself in order to find a sheltered place for her eggs. The eggs are not as large as the head of a common pin, but, small as they are, their white color makes it possible to see them without the aid of a magnifying glass, if they are laid upon a dark or black substance. They are very fragile and easily crushed.

Clothes-moth eggs hatch most readily in warm summer weather in from four to eight days. During colder weather, hatching may not take place for three weeks, but in steam-heated buildings it does not require a much longer time than it does in summer weather.

Of all the stages, the larva or worm stage—the only stage in which clothes moths damage fabrics—is the most susceptible to outside influences. The nature of its food, the temperature, and the humidity have pronounced effects upon its growth. Sometimes, for no apparent reason, the larvae may pass into a period of dormancy lasting as long as 8 to 24 months, during which time it will neither feed nor move about appreciably, only later to become active, feed, and continue its growth.

Many larvae hatching during the summer do not become fully grown and mature as moths until the following March, April and May. There even is a considerable variation in the length of time larvae of the same brood require for development. Larvae hatched on the same day may require as few as 15 weeks or as long as 4 years. Much depends upon their food and environment.

The pupa or chrysalis stage requires during warm summer weather about 8 to 10 days. During the winter months from January to March, in a steam-heated building, clothes moths remained in the pupa stage three to four weeks.

While moths may be on the wing in steam-heated buildings during almost any month, they are present in greatest abundance the country over from May to July and during September and October. In steam-heated houses moths of the webbing species have been observed as early as late December, January and February. In northern localities, where only the case-making moth is present, and in houses not continuously heated, the moths are single-brooded and appear during late May, June and July. The late appearance of moths in such northern houses is greatly to the advantage of the housewife, for by June winter clothing can be stored where it is protected from moth eggs.

There are effective methods for controlling fabric pests and reducing to a minimum the losses caused by them. The fumigation of houses is not always feasible or necessary, but careful attention to the details of cleaning, brushing and, if possible, to sunning of fabrics immediately before they are stored with Para-Dichlorobenzene or wrapped tightly in paper with crystals of it, is an effective and inexpensive remedy within the reach of everyone.

Para-Dichlorobenzene is a white crystalline substance which vaporizes slowly at ordinary temperatures, forming a gas appreciably heavier than air. This gas is non-poisonous to man, but is poisonous to clothes moths and other fabrics pests when they are exposed to it in tight containers and assuming of course that sufficient Para-Dichlorobenzene is employed.

Para-Dichlorobenzene is effective against moths only if used at the rate of 1 pound to each 6 to 10 cubic feet of space, in tight chests, trunks or other containers where the fumes given off by the slow evaporation of the crystals will be confined. If used in bureau drawers, in closets which are frequently opened, in pockets of clothing hung in closets, or in boxes which permit the fumes to escape it is only partly effective and cannot be depended upon for absolute protection.

For the protection of upholstered furniture 2 or 3 pounds of Para-Dichlorobenzene should be well distributed over the covers of a chair and this should then be wrapped immediately in several old blankets or other suitable coverings which overlap one another well and more than touch the floor on all sides and left to stand for several days.

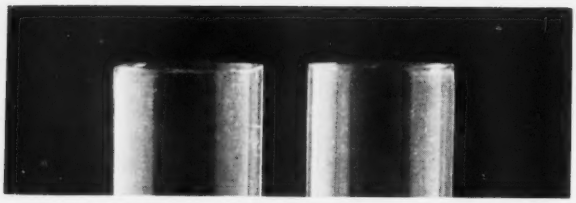
MEMBER
NATIONAL ASSN. INSECTICIDE AND DISINFECTANT MFRS. INC. 1914 INC.

REFINED
NAPHTHALENE
PRIME WHITE
For deodorizing and moth prevention products

CHIPPED
CRUSHED
POWDER
CRYSTALS
(*sifted*)
FLAKES

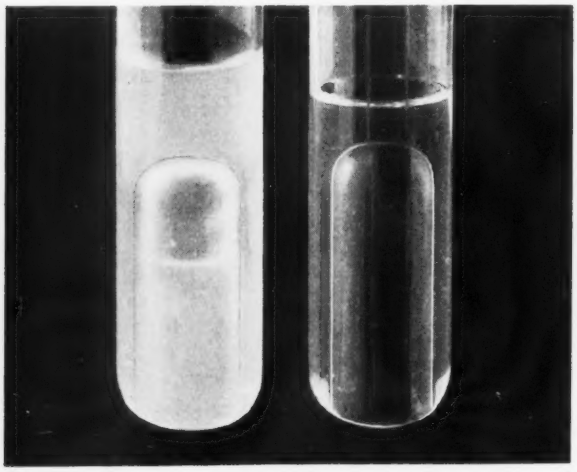
Factories at
KEARNY·N.J.–CINCINNATI·O.
Send inquiries to
THE WHITE TAR COMPANY
BELLEVILLE PIKE - KEARNY · N.J.

KOPPERS



CHLOROZIF *kills odors*

because it kills bacteria, the cause



Each test tube contained 56,000,000 living germs (B. coli) from the human intestine. On the left, normal 24-hour growth is shown by the milky discoloration and the odorous gas bubble formation. The clear tube at right received 15 drops of Chlorozif of 1 to 7 solution. Here germs are inactive, NO ODOR could develop.

Chlorozif is the scientific killer of odors in toilets, baths, drains, walls, floors and like places.

Write for prices and information.

SEE "CHAMPOO" PAGE 42.

FULD BROS. INC.
2310 FREDERICK AVE.
BALTIMORE, MARYLAND
Sanitary Chemicals for Jobbing Trade

PHOSPHORUS PASTE

Insecticide
and
Rodent Killer

Phosphorus is the most toxic chemical used to exterminate rats. It is more toxic than arsenic, barium, strychnine or thallium sulphate.

Phosphorus Paste is also an effective exterminator of water bugs and roaches.

There is no fire hazard connected with the use of our Phosphorus Paste.

It is a standardized product that is exceptionally smooth and consistently uniform.

Sold in 10, 25, 50 and 100 pound pails.

POISON GRAINS

Effective and economical exterminators of mice.

Poison Rye (colored green)
Poison Oats (colored blue)
Poison Wheat (colored red)
Poison Barley (colored purple)
Poison Canary (natural color)
Mixed Poison Grains (colored four seed mixture)

Packed in 10, 25, 50 and 100 pound drums.

Write for Quotations

SENNEWALD DRUG COMPANY, Inc.
800 Hickory Street Saint Louis, Missouri
Established 1855

Know What You Are Buying

As a buyer or consumer of liquid insecticides you must have some medium for ascertaining the efficiency of the products you purchase and sell.

Why guess or be in doubt? You have at your disposal a medium for purchasing insecticides on an intelligent basis.

Entomological testing by the Peet-Grady method, and chemical examination of insecticides are now available.

Charges are moderate, and our completely equipped and expertly directed laboratory is at your service.

ENTOMOLOGICAL TESTING LABORATORIES, INC.
114 E. 32nd St. New York, N. Y.

In the utilization of gases or vapors, the general knowledge of the necessary conditions for their effective employment has increased. We know now that temperature plays a vitally important part, and that gas that kills at 70° F. may totally fail at 50°.

Most household insects, though active at 70° become inactive at 50°. Probably because their physiological processes are at high speed at the higher temperature but have slowed down at the lower, pests may be killed by a suitable gas under conditions of warmth whereas they fail to react when chilled.

In addition, the amount of the toxic vapor, given off by a solid, that the air will hold at 70° or 75° is very much greater than the amount that it can contain at 50°.

Thus, there is a double-barreled situation in favor of the higher temperature. Not only is an insect more susceptible, but the concentration of the toxic gas will be greater.

Another treatment in which vacuum cleaners, adjusted to give an outflow instead of an intake of air, are employed to drive a dust of Para-Dichlorobenzene into the substance of upholstered furniture, the articles then to be covered so as to retain the vapors. However, in any case, the concentration of the toxic vapor is of prime importance. Any plan that uses a large quantity of air mixed with a small amount of vapor may accomplish little or nothing.

In another and different way, the vacuum cleaner can help in moth control, namely in thorough cleaning of the articles liable to attack. Woolen floor coverings, for example, especially in houses vacated for the summer, may be severely damaged by moths. A vacuum cleaner will help to prepare such materials for safe storage.

Protection of woolen blankets from moths is now a task easily accomplished. When the season arives for puting them away, they should first be thoroughly cleaned and hung out in the sun. Then they should go at once into safe conditions of storage.

If they are placed in a chest or trunk that is tight, they will be protected by the presence of a suitable amount of Para-Dichlorobenzene, so placed that the vapor which the solid gives off may readily be diffused. The vapor is heavier than air. Thus the container in which the chemical is placed should have openings in the side or bottom and should be placed at the very top of the compartment.

The application of Para-Dichlorobenene to peach trees for the control of the peach borer is most effective in the fall after most of the moths have oviposited. At this time many of the larvae are still small and more or less exposed, and hence are more susceptible to the gas than if they were deep in their burrows in the crown and roots. Applications must not be delayed, however, until the soil temperature is so low that the chemical will not volatilize properly.

Fall applications are most effective, but if these have been neglected or were poorly timed, treatment sometimes becomes desirable in the spring. Spring applications of the chemical have given a fairly satisfactory kill, although the borers have by that time, of course, caused a great deal more damage than would have occurred if they had been killed in early fall while still small. Spring treatment should be given as soon as the ground begins to warm up, the exact time differing with the locality.

Many members of this association are interested also in the manufacture of Deodorizing Blocks and Crystals and invariably the best brands on the market are produced from Para-Dichlorobenzene, scented with various synthetic perfumes.

These Deodorizing Blocks and Crystals find a wide usage in Hotels, Schools, Clubs, Office Buildings and other public places and also in and around the home where it is desired to overcome unpleasant odors.

The domestic production and sales of Para-Dichlorobenzene as recorded in the government publication "The Census of Dyes and of Other Synthetic Organic Chemicals" reveals that in 1920 sales of Para-Dichlorobenzene were 465,292 pounds. By 1925 sales had increased to 1,992,253 pounds and the last official statistics published, which were for 1930 indicate sales of 5,507,030 pounds. All of these sales figures were reported by producers to the Tariff Commission and are therefore reliable. No statistics are available for 1931 or 1932, but it is reasonably certain that there has been no appreciable decline since 1930, and if properly merchandized the market for Para-Dichlorobenzene should continue to increase.

KOPPERS

TAR ACIDS
CRESOL U.S.P
CRESYLIC ACID
98% & 100% • STRAW COLOR
TAR ACID OILS
PHENOLS
NEUTRAL
HYDROCARBON OIL

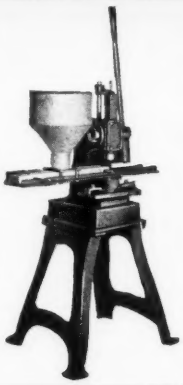
KOPPERS PRODUCTS COMPANY
1249 KOPPERS BUILDING
PITTSBURGH, PA.

for low cost *in* para block *manufacture*

These two practical machines are all you need to produce high quality para blocks or cakes. The small machine on the left will thoroughly mix all ingredients. The large machine on the right will compress the mixture into any shape dies can give.

In addition, the mixer can be used on other dry products such as roach powder, cleansers, bath salts, etc. It will also give a smooth, soft and velvety texture to creams.

The hand lever press has more power than cheap foot presses. Inexperienced operators can rapidly turn out fine looking blocks. Send us some of your material and let us show you some specimen cakes. The press will save from 5% to 10% over the hot process.



HUBER MACHINE CO. 259 46th St., Brooklyn, N. Y.

Makers of Good Soap Machinery for Forty Years

"FILMA-SEAL"

(the double seal of cap and film)

Is an Air Tight Seal for

INSECTICIDES
CLEANERS
POLISHERS

TAMPER PROOF, it prevents trifling and sampling.

LEAK PROOF, it prevents evaporation.

"FILMA-SEAL" being the main sealing factor it makes for easy removal of the cap and reseal advantages.

"FILMA-SEALS" are low in price. We insert same in our standard continuous thread caps.

Automatically transferred to top of tin or glass containers when cap is applied. *NO* reduction in output. 20 to 105 per minute depending upon capping system employed. *NO additional* Labor Costs.

FERDINAND GUTMANN & CO.

Established since 1890

39th St. and 2nd Ave. Brooklyn, N. Y.

Trade Marks Reg. Patents Pending

SOAP POWDER

FLUFFY AND HEAVY

Scouring Powder

and

Detergent

Packed in barrels or kegs.
In bulk to the trade.

STEVENS SOAP CORP.

200 Sullivan St., Brooklyn, N. Y.

CUmberland 6—3747

FLOOR WAX

LIQUID
PASTE
POWDER

New Improved Self-Polishing Liquid Wax

UNDER YOUR OWN LABEL

We print the label

Send for Samples and Quotations

WINDSOR WAX COMPANY

50 Church Street *REctor 2—0661* **New York, N. Y.**

Factory: 611-617 Newark St., Hoboken, N. J.

CLASSIFIED ADVERTISING

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 136 Liberty St., New York.

Note: All advertisements must be in publisher's hands by the first of the month for that month's issue.

Positions Wanted

Soap Maker and Chemist; can make all kinds of soaps. Has long experience in soap business and good record. Desires new connection. Address Box 230, care *Soap*.

Superintendent—Can make and analyze all kinds of soap and soap materials. Address Box 231, care *Soap*.

Chemical Engineer, Soapmaker and **Plant Superintendent.** Practical experience in boiled and semi-boiled soaps. Three years in Spanish speaking country. Address Box 232, care *Soap*.

Experienced Exterminator-Fumigator; 10 years experience, good contact man, progressive and thorough. Will accept any fair proposition; references on request. Address Box 228, care *Soap*.

A master soap maker, 52 years' experience all kinds of potash and soda soaps, also face and shaving creams, toilet and shampoo soaps, will send formulas with detail instructions and short cuts easy and practical at a reasonable price. References supplied. Address Box 222, care *Soap*.

Advertiser wants to connect with soap manufacturer or allied business for development of line of specialties for textile, leather, metal and cosmetic trades. Thorough knowledge and experience, manufacturing, selling, and customers' requirements. Address Box 213, care *Soap*.

Chemist: Long practical experience in finishing textiles, and in the manufacture of textile oils, softeners, etc., and their application. Address Box 217, care *Soap*.

Positions Open

Wanted: Experienced man to superintend plant making liquid and oil soaps, scrubbing soaps, etc. Also knowledge disinfectants, etc. Give details of experience, etc. Write to Box 225, care *Soap*.

Why should I use SEFTON CANS?

BECAUSE Sefton Cans will package your product economically; because Sefton Cans dress your product attractively; because Sefton Cans move your product off the dealers' shelves.

Our packaging engineers will work out the most practical container for your particular purpose.

Sefton Cans have often saved manufacturers from 10% to 50% on their packaging.

Just phone the Sefton representative in your town. He'll be glad to give you all the information you will need, or write

Fibre Bodies with Fibre or Metal Ends

SEFTON NATIONNAL FIBRE CAN COMPANY
3207 Big Bend Rd., Maplewood, St. Louis, Mo.

$EFTON ¢ans
Save the Difference

CLEANING POWDERS

Supply the kind your trade wants . . . insure repeat orders

Let us make up your CLEANING POWDERS using your own names and labels.

Build up the business on *your own brand.*

Special formulas developed.

Write for further details

KEMIKO MFG. CO.

187 Murray St. **Newark, N. J.**

PYRETHRUM

• POWDERED

Years of experience and long established selective buying contacts insure the high quality of McCormick's Pyrethrum.

A close examination of McCormick's Powdered Pyrethrum will clearly show uniformly fine particles due to the air flotation process.

• GRANULATED

Analytical and biological tests guarantee the high toxic quality of McCormick's Pyrethrum.

So that the toxic content may be efficiently extracted, all the achenes are broken up in McCormick's granulated Pyrethrum. This allows maximum extraction.

• CONCENTRATED OIL EXTRACTS

Expert supervision of rigidly controlled methods insures known killing power in McCormick's Pyrethrum.

The base for McCormick's Oil Extract is a Petroleum Oil that has been refined to complete freedom from any kerosene odor.

Standardized Liquid and Dust Pyrethrum Insecticides

McCORMICK & CO., Inc.

• BALTIMORE, MARYLAND •

for your paste products

A REMOVABLE HEAD DRUM

A Trageser removable head drum is the ideal container for any of your bulk paste products—auto soaps, soft soap bases, polishes, textile specialties, fats, greases, etc. The head comes off quickly and makes the container easy to handle.

Trageser drums are built to last. Send for new low prices on 30, 55 and 110 gallon sizes.

JOHN TRAGESER STEAM COPPER WORKS

Grand Avenue. Maspeth, L. I., N. Y.

PUlaski 5—7700

SHAVING CREAM

TOOTH PASTE

In
Bulk
Or

Under Your Own Name in our special utbes and cartons. These are lithographed with a blank space for *YOUR* label. In any quantity from one gross up.

GEO. A. SCHMIDT CO.

Manufacturers of SOAPS *of Every Description*

236-238 West North Avenue
Chicago

High Grade Specialty Products

For the Wholesale Trade

*BORITE POWDER No. 60

U. S. Reg. Trade Mark

An ideal mild powder for laundry work and water softening purposes. Also Borite No. 54 for dairies and bottlers. We particularly invite your attention to Borite No. 90 for metal cleaning.

*NEUTROLITE BOILER TREATMENT

U. S. Reg. Trade Mark

An active reagent for neutralizing acidity and hardness in boiler feed water. The ideal boiler compound, a uniformly effective scale remover and retarder.

**These are the marks of our manufacture. They assure you of uniformity and excellence.*

MILWAUKEE CHEMICAL CO., INC.

204 N. Broadway St. Milwaukee, Wis.

Manufacturers of chemical products for the wholesale trade

Soap Maker Wanted. Permanent position. For work in New Jersey. Address Box 229, care *Soap*.

Wanted: experienced Kettle man. State age, experience and salary required. Address Box 214, care *Soap*.

Salesman Wanted with experience selling essential oils, perfume and flavor oils; must have following. Address Box 227, care *Soap*.

Duties on soaps imported into Trinidad and Tobago of the British West Indies were recently changed as follows: Soap—Plain yellow, brown, blue-mottled, and similar soaps, which were previously dutiable at a rate of 2s per 100 pounds British Preferential and 4s per 100 pounds General, are now 1s per 50 pounds British Preferential and 10s per 50 pounds General.

Of this soap, there were imported during the calendar year of 1932 a total of 3,527,545 pounds, valued at £33,988, of which Canada secured business amounting to 195,000 pounds, valued at £1,934.

—o—

Cin-Made Corp., Cincinnati, manufacturers of fibre cans and tubes, has appointed the Jackson Sales Co., Cary Street at 11th, Richmond, Va., as sales representative in the State of Virginia.

—o—

The annual outing and golf tournament of the New York section of the American Association of Textile Chemists and Colorists was held at the North Jersey Country Club, Paterson, N. J., June 23.

—o—

A bill recently introduced in the Tennessee Legislature, while applying not to household insecticides, but rather to agricultural poisons, is of concern to household insecticide manufacturers in that it classifies pyrethrum and paradichlorbenzene as poisons.

—o—

Permutit Co., water softeners, moved its offices from 440 Fourth Ave., New York, to the McGraw-Hill building, 330 West 42nd Street, New York, July 1. The new telephone number is Bryant 9-9050.

—o—

Thomas Keating, Ltd., a British insecticide manufacturer, is introducing a new fly spray which sells under the name, "Liquid Keating's." Retail prices are: 4 ounces, 9d., 8 ounces, 1s.6d., and 20 ounces, 3s.

—o—

The Society of Exterminators and Fumigators, under the direction of William Buettner, president, is appointing a committee to draft the trade code for fumigators and exterminators and is seeking the cooperation of other commercial fumigators in various parts of the country.

REBUILT EQUIPMENT
Soap Machinery Specials

2—Tube Fillers, motor driven.
1—5 Roller Steel Mill.
1—8 in. H. A. Plodder.
1—Ralston Power Soap Press.
4—Watercooled Three Roller Mills.
1—Sargent Soap Chip Dryer.
6—1200 lb. Frames.
2—Foot Para Block and Soap Presses.
1—Houchin Amalgamator.
3—Dopp and Houchin Vertical Crutchers.
1—1500 lb. Horizontal Crutcher.
3—Granite Stone Mills, 3 and 4 rolls.
1—Simplex Soap Powder Grinder.

Cutting Tables, Slabbers, Kettles, Pumps, Tanks, Filter Presses, Wrapping Machines, Tube Fillers, Closers, Crimpers, Dry Powder Mixers, etc.

Send for Complete List (Bulletin No. 10)

We buy and sell from single items to complete plants.

Stein-Brill Corporation

183 Varick Street **New York, N. Y.**
Phone: WAlker 5-6892-3-4 **Cable Address: "BRISTEN"**

ZIP-ON
LIQUID FLOOR WAX
NO RUBBING—NO POLISHING

Only has to be sold once. Users insist on *ZIP-ON* because it is *defintely superior*. A trial will show you why!

JOBBERS!—you can hold your customers and make new ones with *ZIP-ON* — recommended and approved by the Rubber Mfg. Association.

Ask for a Sample Can

SHAWMUT SPECIALTY CO.
89 BICKFORD ST. BOSTON, MASS.

found money

If *you* are not using Vioflor you are throwing away 40% to 70% of your cost for perfuming insecticides, naphthas, polishes, inks, para-blocks, etc . . . .

Without changing the odor effect now in your product!

It takes but a few minutes to demonstrate this.

Allow us to submit samples and further details.

***Manufactured by* CREPIN & DOUMIN, Ltd., London, England**

Sold in the United States and Canada by

JOHN POWELL & CO., Inc.
114 East 32nd Street :: :: New York, N. Y.

Bulk Metal Polish

for the jobbing trade

BIG PRODUCTION — *LOW* COST!

That is the reason jobbers all over the country are finding it profitable to stock SOLSHINE polish—that and our years of experience in manufacture, guaranteeing a product that will satisfy your customers and build repeat business. You can buy a better metal polish from us than you can manufacture in limited quantity and you can save money into the bargain. SOLSHINE polishes do not scratch or separate and clean as well as polish. We supply either paste or liquid and pack both in everything from a one gallon can to 55 gallon drums. Let SOLSHINE act as your own metal polish plant.

Try it at our expense. Ask for a sample can and new low bulk prices.

SOLSHINE MFG. CO.
Established 1897
17 CALDWELL STREET, BOSTON, MASS.

TROJAN TRIPLE-ACTION METAL POLISH

will double your polish business

Trojan metal polishes, packed under your own label, will double your metal polish business because consumers can't resist these new 1933 features. In the first place, they are made in a variety of colors. Secondly, they are available in the following grades as desired by your customer — fast dry, medium dry, slow dry, heavy body, thin body, medium body. They quickly produce a brilliant lustre on all kinds of metal. Prices are rock-bottom—send for a generous test sample.

TROJAN PRODUCTS & MANUFACTURING CO., INC.
3101-07 S. Wabash Ave. Chicago, Ill.

SOAP MACHINERY

Every item shipped from our shops at Newark, N. J., is thoroughly overhauled and rebuilt before shipment.

SPECIALS

1—Soap Chip Dryer, 1200 lb.
2—Dopp 650 gal. Steam Jacketed Kettles.
1—Dopp 1200 lb. Steam Jacketed Crutcher.
1—Hershey 1000 lb. Horizontal Jacketed Crutcher.
1—1000 lb. All Steel Soap Powder Mixer.
2—Holmes & Blanchard 24″ and 36″ 4 cage Disintegrators, for grinding soap powder—no screens, no plugging.

25—Soap Frames, 60″x45½″x14″, with trucks.
6—Plodders, Houchin, Rutschman, 4″, 4½″ double screw, 6″, 8″, 10″.
14—Filter Presses, 42″x42″ to 12″x12″.
8—Granite Mills, 3 and 4 roll, 12″, 18″ and 24″.
15—Horizontal Mixers, Jacketed and Plain, 15 gal. to 1000 gal.

MISCELLANEOUS—Kettles, Mixers, Pony Mixers, Powder Fillers, Tube Fillers, Labelers, Soap Presses, Soap Wrappers, Tanks, Boilers, Pumps, etc.

Send for Latest Bulletin.

CONSOLIDATED PRODUCTS COMPANY, INC.
15-21 Park Row, N. Y. C. BArclay 7—0600
We buy your idle Machinery—Single items or entire plants.

Durwyllan Co., Paterson, N. J., is introducing a new line of wax polishes and cleaners. "Triplelustre" polish and cleaner and "Napso" liquid soap are initial items in the line.

—o—

The A. B. C. Sanitary Supply Co., Des Moines, has been taken over by the Langan Paper Co., also of Des Moines, who will continue to operate the business. C. A. Stevenson, formerly in charge of sales for the A. B. C. Sanitary Supply Co., will be associated with the Langan Paper Co.

—o—

A corporation compounding a product composed in part of imported pine needle essence and in part of liquid soap has signed a stipulation with the Federal Trade Commission, agreeing to cease advertising that its product contains over fifty per cent of imported pine needle essence, when such is not the fact, and from making exaggerated statements which would deceive purchasers respecting the actual pine needle essence content of its product.

—o—

Fred Black, formerly advertising manager of Ford Motor Co., has joined the advertising department of E. R. Squibb & Sons.

—o—

In a recent issue of *The Hercules Mixer*, house organ of Hercules Powder Co., the application of Hercules products in pest control and health promotion is discussed.

KLEENWELL
LIQUID GLOSS WAX

is making profits for jobbers!

Here is the modern treatment for floors—Kleenwell Liquid Gloss Wax—can be applied with a mop or cheese cloth rag; dries quickly and gives a fine bright polish without rubbing; non-inflammable and non-explosive; protects the surface; prolongs the life of floors. Add it to your line NOW.

** Kleenwell Liquid Gloss Wax has been approved by leading linoleum, rubber and composition floor manufacturers.*

Send for a generous testing sample and new low price!

CHICAGO SANITARY PRODUCTS CO.
2526 W. CONGRESS STREET
CHICAGO, ILL.

ERTEL AMERICAN MADE
LIQUID HANDLING EQUIPMENT
ASBESTOS DISK FILTERS for SYRUPS, WATER, CIDER, ETC...
NEUTRAL ASBESTOS FILTER SHEETS, ALLEGHANY STAINLESS STEEL TANKS, GLASS LINED TANKS, PORTABLE MIXERS, PORTABLE BOTTLE FILLERS, PUMPS ETC.
ERTEL Engineering Corp. - 108 East 16TH St., New York

ERTEL ASBESTOS DISC FILTERS

Especially suitable for filtering insecticides, light liquid soaps, polishes, toilet preparations, moth sprays, etc. Tell us what your problem is and let us work on it without obligation.

Note the handy grip, an exclusive feature of the Ertel Mixer, which makes it truly portable.

Made in all sizes to meet your mixing requirements.

We Manufacture
For The Trade ONLY

Liquid Soap Base
Auto Soaps
Potash Oil Soap
Shampoo
U.S.P. Cresol Compound
Coal Tar Disinfectants
Liquid Soap
Pine Oil Soap
U.S.P. Green Soap
Shampoo Base
Pine Oil Disinfectants
Insecticides

Ask for samples of these specialty bulk products

HARLEY SOAP CO.
2852 E. Pacific St. Philadelphia

Where to buy

RAW MATERIALS AND EQUIPMENT

for the Manufacture of Soaps and Sanitary Products

NOTE: This is a classified list of the companies which advertise regularly in *Soap*. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, etc., in which you are particularly interested. Refer to the Index to Advertisements, on the following pages, for page numbers. *"Say you saw it in SOAP."*

ALKALIES

American Cyanamid & Chemical Corp.
Columbia Alkali Co.
Hooker Electrochemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Stauffer Chemical Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

Dodge & Olcott Co.
P. R. Dreyer, Inc.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Maybee & Reynard, Inc.
Monsanto Chemical Works
Naugatuck Chemical Co.
Newport Chemical Works
Sherka Chemical Co.
Solvay Sales Corp.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

BULK AND PRIVATE BRAND PRODUCTS

Baird & McGuire, Inc.
Chemical Supply Co.
Chicago Sanitary Products Co.
Clifton Chemical Co.
Davies-Young Soap Co.
Eagle Soap Corp.
Fuld Bros.
Harley Soap Co.
J. L. Hopkins & Co.
Hull Co.
Kemiko Mfg. Co.
Koppers Products Co.
Kranich Soap Co.
Milwaukee Chemical Co.
National Oil Products Co.
New York Soap Corp.
Palmer Products
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
Sennewald Drug Co.
Shawmut Specialty Co.
Solshine Mfg. Co.
Stevens Soap Corp.
Trojan Products & Mfg. Co.
U. S. Sanitary Specialties Corp.
White Tar Co.
Windsor Wax Co.

CHEMICALS

American Cyanamid & Chemical Corp.
Bowker Chemical Co.
Columbia Alkali Co.
E. I. du Pont de Nemours & Co.
General Chemical Co.
Grasselli Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Co.
Mechling Bros. Chemical Co.
Monsanto Chemical Works
Newport Chemical Works
Niagara Alkali Co.
Philadelphia Quartz Co.
Solvay Sales Corp.
Standard Silicate Co.
Stauffer Chemical Co.
Swann Chemical Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid oil, etc.)

American Cyanamid & Chemical Corp.
Baird & McGuire, Inc.
Barrett Co.
Koppers Products Co.
Monsanto Chemical Works
Reilly Tar & Chemical Co.
White Tar Co.

CONTAINERS

Cin-Made Corp. (Fibre Cans)
Cleveland Container Co. (Fibre Cans)
Continental Can Co. (Tin Cans)
Maryland Glass Corp. (Bottles)
Metal Package Corp. (Tin Cans)
Owens-Illinois Glass Co. (Bottles)
Sefton National Fibre Can Co. (Fibre Cans)
William Vogel & Bros. (Tin Cans)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Palmer Products, Inc.
U. S. Sanitary Specialties Corp.
William Vogel & Bro.

ESSENTIAL OILS

Dodge & Olcott Co.
P. R. Dreyer, Inc.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Maybee & Reynard, Inc.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

(*Continued on Page* 114)

Consulting Chemists and Engineers

Specializing in Soaps, Disinfectants, Insecticides, Polishes, Etc.

FOSTER D. SNELL, INC.

Chemists-Engineers

A technical organization offering complete consulting, research, operating and management service.

305 Washington Street Brooklyn, New York

STILLWELL AND GLADDING, Inc.

Analytical and Consulting Chemists

Members Association of
Consulting Chemists and Chemical Engineers

80 West Street New York City

FRANK R. GUNN COMPANY

Analytical and Consulting Chemists

Ontario and Brabant Sts. Philadelphia, Pa.

Skinner & Sherman, Inc.

246 Stuart Street, Boston, Mass.

Bacteriologists and Chemists

Disinfectants tested for germicidal value or phenol coefficient by any of the recognized methods.

Research—Analyses—Tests

Pease Laboratories, Inc.

39 West 38th Street New York

Chemical, Bacteriological and Sanitary Investigations

Soaps, Sanitary Specialties, Drugs, Cosmetics
Disinfectant and Antiseptic Testing Formula Development

LLOYD A. HALL

Research and Consulting Chemist

Specialist in the analysis, development and improvement of soaps, disinfectants and allied products since 1915.

Complete Research and Consulting Service

Laboratories, 1415 West 37th Street, CHICAGO, ILL.

F. & S.

Quality Colors *for* TOILET SOAPS LIQUID SOAPS

TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.

205 FULTON STREET
NEW YORK, N. Y.

Import—Manufacture—Export

Grinds Everything Grindable

Insect Flowers

The "JAY BEE" hammer mill is designed to grind Pyrethrum Flowers for the greatest yield of Pyrethrins. Economy of grinding and uniformity of grind are not equaled by any other reducing process.

SOAP FLAKES! The "JAY BEE" makes a fine, uniform powder, grinding without heat or friction.

GRINDS Roots—Herbs — Barks — Seeds — Leaves — Spices — Nuts — Chemicals — of all kinds—Tobacco leaves and stems! The "JAY BEE" grinds everything fine, fast, cool, uniform at a lower cost per ton than any other grinder made.

Sturdy steel construction, built to last a lifetime. "JAY BEE" mills are complete and compact. Require small space. Sizes and styles to meet every grinding requirement: 2 H. P. to 100 H. P. with belt, V-belt and direct-connected drives.

Write for descriptive literature. Submit your grinding problems. Send us samples of any material you want ground.

"JAY BEE"

The World's Greatest Grinder

Manufactured by The Bossert Corp., Utica, N. Y. The World's Largest Builders of Hammer Mills

Used by the largest plants in the industry.

J. B. SEDBERRY, Inc., 140 Hickory St., Utica, N.Y.

RAW MATERIAL and EQUIPMENT GUIDE

(*Continued from page* 112)

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MACHINERY

Blanchard Machine Co. (Soap Powder)
Ertel Engineering Co. (Liquid Handling)
Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
Illinois Steel Co. (Stainless Steel)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Proctor & Schwartz (Dryers)
J. B. Sedberry Co. (Grinders)
Stokes & Smith Co. (Packaging Machinery)
Struthers-Wells Co. (Process)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.
Stein-Brill Co.

METAL CAPS

Anchor Cap & Closure Corp.
Crown Cork & Seal Co.
Ferdinand Gutmann & Co.

MISCELLANEOUS MATERIALS

Derris Inc. (Derris Products)
General Naval Stores Co. (Pine Oil-Rosin)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Co. (Decol, Carbon, Chalk)
Pylam Products Co. (Lathering Agent)
Rohm & Haas Co. (Insecticide Base)
Sennewald Drug Co. (Poison Baits)
L. Sonneborn Sons (Petroleum Products)

OILS AND FATS

Industrial Chemical Sales Co.
Leghorn Trading Co.
Newman Tallow & Soap Machinery Co.
Theobald Annual By-Products Refinery
Welch, Holme & Clark Co.

PARADICHLORBENZENE

E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Works
Niagara Alkali Co.
Solvay Sales Corp.

PERFUMING COMPOUNDS

Dodge & Olcott Co.
P. R. Dreyer, Inc.
Felton Chemical Corp.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Maybee & Reynard, Inc.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

PYRETHRUM PRODUCTS

(Insect Flowers, Powder and Pyr. Ext.)

W. Benkert & Co.
J. L. Hopkins & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
John Powell & Co.

SOAP COLORS

Fezandie & Sperrle
Interstate Color Co.
Pylam Products Co.

SOAP DISPENSERS

Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Palmer Products
U. S. Sanitary Specialties Co.

SODIUM SILICATE

American Cyanamid & Chemicals Corp.
General Chemical Co.
Grasselli Chemical Co.
Mechling Bros. Chemical Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SPRAYERS

Breuer Electric Mfg. Co.
Electric Sprayit Co.
Hudson Mfg. Co.
Lowell Sprayer Co.
Metal Specialties Mfg. Co.
U. S. Sanitary Specialties Corp.
William Vogel & Bros.

STEEL CONTAINERS

John Trageser Steam Copper Works (Pails and Drums)
Wilson & Bennett Mfg. Co. (Pails and Drums)

SULFONATED OILS

National Oil Products Co.
Richards Chemical Works

TRI SODIUM PHOSPHATE

American Cyanamid & Chemicals Corp.
Bowker Chemical Co.
General Chemical Co.
Grasselli Chemical Co.
Swann Chemical Co.
Victor Chemical Works
Warner Chemical Co.

The *Manufacturing* CHEMIST

PHARMACEUTICAL COSMETIC & PERFUMERY TRADE JOURNAL

Embracing the Manufacture of Drugs, Pharmaceuticals, Cosmetics, Toilet Preparations, Photographic Materials, Soaps, Fine Chemicals, Essential Oils, Perfumes, Dental Preparations, Patent Foods and Machines in Liquid, Powder, Paste, Pill and Tablets, Polishes, Antiseptics, Germicides.

SOME RECENT ARTICLES

Wood Polishes, by A. B. Searle.
The Removal of Superfluous Hair, by Dr. Albert Ellmer.
Essential Oils in India and Ceylon—A Review.
The Fatty Alcohols and their Sulphonated Products.
Metal Polishes, by Alfred B. Searle.
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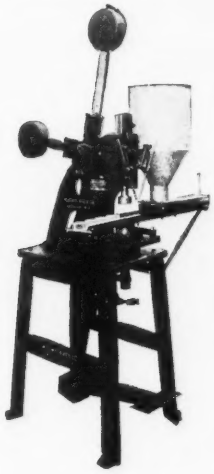

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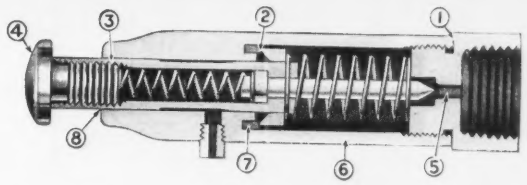

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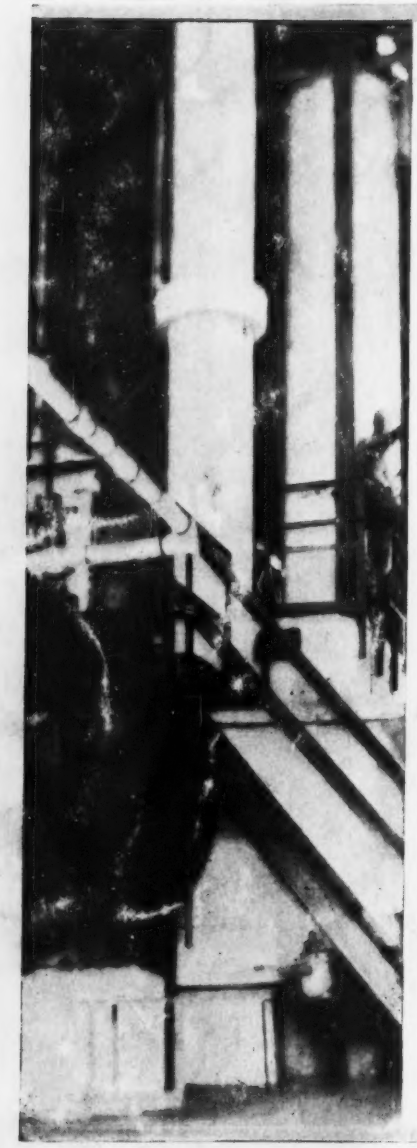

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